Africa 87 (4) 2017: 758–79 doi:10.1017/S0001972017000353

Governing access to gold in Ghana: in-depth geopolitics on mining concessions

Sabine Luning and Robert J. Pijpers

Introduction

In 2011, while studying the relation between large-scale and small-scale gold mining in the western region of Ghana, we were invited to visit a concession where the Canadian mining company Keegan Resources was about to move from the stage of exploration to industrial mining. The CEO of the company, a geologist, was excited about the discovery that appeared to allow for this development: for a long time alluvial gold had been mined near the riverbed, but in 2006 Keegan found the source of this alluvial gold while constructing a road. This accidental find was followed by extensive exploration activities, which allowed Keegan to identify the exact location and contours of the ore body. During the visit, the geologist wanted to show us the hill that contained the ore body in its outcrop. On our walk uphill, several artisanal miners, both men and women, approached us, shouting and screaming while making angry gestures. They prevented us from accessing the area, clearly indicating that this hill belonged to them and underscoring that the company and artisanal miners were in competition over this particular deposit. After we explained our purpose and position, we were made to understand that we should go and see the chief of the village first, to ask permission to enter their mining area. Clearly, status positions and legitimation of claims were contested in this competition over mineral resources: the company may officially own the concession and mineral rights, but local artisanal miners consider their appropriation of this resource legitimate and see their chief as the appropriate authority.

However, the tensions over appropriation were not solely affected by challenges in the social arena as to who has authority to give or withhold access to resources. The geologist explained that the staff's excitement at finding the source of the alluvial gold in this outcrop had its downside: the geological situation is such that the ore can be targeted both by artisanal miners using artisanal methods and by large-scale industrial miners. Artisanal miners can easily access the ore by building horizontal tunnels at several points into the hill, as well as easily process the ore as weathering has made the material soft. According to the CEO of Keegan Resources, since this discovery, around 1,000 artisanal miners have left their alluvial sites near the riverbed to start digging uphill, and he stressed that gaining exclusive access to this primary source would be very difficult.

Sabine Luning is a senior lecturer at the Institute of Cultural Anthropology and Development Sociology, Leiden University. Her research focuses on economic anthropology, in particular the booming business of gold mining in West Africa. Email: SLuning@FSW.leidenuniv.nl
Robert J. Pijpers is a PhD candidate at the Department of Social Anthropology, University of Oslo. His work focuses on social and economic change, extractive industries and the micro-politics of resource governance in West Africa. Email: r.j.pijpers@sai.uio.no

Two factors appear to play a key role in the challenges and competition over access to this ore body. First of all, given the history of artisanal mining and the way gold mining has been embedded in local practices of land use and structures of authority, Keegan Resources will never be in a position to fully exclude artisanal miners from 'their' concession. Working out some sort of arrangement in which artisanal miners' access will be confined will require the support of the local chiefs. Secondly, geology plays an important role in the way in which different groups may or may not have access to the resources: the way this particular ore body is located underground allows for extraction on different scales. Industrial and artisanal miners differ in their technical capabilities to access (parts of) specific ore bodies. Both socio-political aspects and geological features of ore bodies influence how companies and artisanal miners work out arrangements concerning access to and control of gold deposits at specific localities. The aim of this article is to foreground and analyse the interplay between politics and geology in forms of cohabitation between miners operating at different scales. We call this interplay in-depth geopolitics.

Cohabitation: negotiating access and control

The situation described above is typical of many places where gold mining occurs in Ghana, and in Africa more broadly. In most of the areas in which the national state has allocated permits to international companies – both junior exploration companies and major companies with productive gold mines – large-scale mining is taking place alongside other forms of land use, in particular gold mining at an artisanal scale. Mining companies are often relative newcomers on the scene, whereas artisanal gold mining and other forms of land use such as agriculture have a much longer history. Scholars (Hilson 2002a; Aubynn 2006; 2009) describe how mines can opt to forge partnerships with local small-scale miners, for example by allocating specific areas to artisanal miners, while declaring target areas for the company's industrial operations off limits for small-scale miners. Several gold mining companies describe their policies for dealing with such situations in terms of 'cohabitation' (see, for example, AGA 2010: 31). The cohabitation that is brought about shows interesting spatial intertwining around access points to mineral deposits, or 'ore bodies'. A major question concerns the power relations through which these arrangements have to be worked out. Jennings (1994) argues that, since mining companies are the legal and authorized owners, cohabitation is merely based on a voluntary agreement. Mining companies can choose to accept small mining operations on their concession and specify the conditions under which these can continue. Jennings is right that in terms of national law, large-scale miners have legal status while artisanal miners – in Ghana called *galamsey* – often lack such status. This legal/illegal divide is highly relevant for governance issues and can lead to uneven power relations in forms of cohabitation or to the dispossession of small-scale miners altogether (Hilson and Yakovleva 2007; Tschakert 2009).

Power configurations at mining sites may be more complex, however, as Emel *et al.* show (2011). They point out that in most African countries the state's authority to grant mining rights is based on a system in which the state is the ultimate owner of subsoil mineral wealth: the distinction between public and private coincides with the difference between subsurface and surface ownership.

Furthermore, national sovereignty over mineral wealth – so-called subterranean sovereignty – has often been framed in opposition to foreign capital. The authors show, however, how the national ownership of subterranean resources may facilitate alliances between state and international companies at the expense of local groups' surface rights at mining sites, often limiting their access. Yet, they suggest, the way in which 'subterranean sovereignty' and 'layered rights' affect power relations between state authorities, companies and local communities must be studied empirically since 'sovereignty is negotiated at the level of the global-national scale, [but] it is territorialized at the local scale. Thus, we must also keep attuned to the ways in which local populations living in the spaces of extraction are constantly interrupting state-capital sovereignty projects' (Emel *et al.* 2011: 73).

In order to move away from a limited perspective on rights, Ribot and Peluso (2003) have suggested focusing on access rather than on (formal) property and entitlements. They define access as the ability to benefit from things. Sometimes one may have rights, but the means to benefit from these rights (such as capital or labour) are lacking. In that case one has property (the right to benefit) without access (the ability to benefit). In their theoretical frame they elaborate how technology, capital, markets, labour, knowledge, authority, identities and social relations more broadly influence access mechanisms; hence they talk about a 'web of access'. Moreover, they distinguish between 'access control' and 'access maintenance': the first concerns the ability to mediate the access of others; the second is about how one can safeguard access over something from which one takes benefits.

Since the publication of this work, different scholars have brought some of these insights to the study of allocation of land and resource exploitation in African societies. Sikor and Lund (2009) have shown how access mechanisms are affected by the exercise of power and authority. Current approaches underscore that, in Africa, access to land can only be understood in wider arenas of authorizers such as chiefs, ritual officiants, landowners and state authorities. As Lentz (2006: 1) argues for West Africa in general, land ownership is a complex bundle of socially and politically embedded rights related to specific groups of which membership can be contested and negotiated. Not surprisingly, mining companies seeking access to land become part and parcel of these local arenas in which access and authority are negotiated.

Local political dimensions affecting mining practices in Ghana have only recently started to be addressed, although conflicts between large-scale and artisanal mining have been studied for a longer period (Hilson 2002b; Andrew 2003; Hilson *et al.* 2007; Aubynn 2009). Standing and Hilson (2013) explore how chiefs benefit directly from formal arrangements for the redistribution of mineral wealth, and Geenen (2015) analyses mining concessions as sites of hybrid governance. Our article connects with this literature and shows how access to gold resources is entangled with the socio-political landscape at tangible mining sites. It does so, however, by adding an extra dimension to the political landscape of mining. So far, studies on mining in Africa have taken a two-dimensional, horizontal, perspective. The studies often focus on land use and analyse how large-scale and small-scale miners compete over the same surface area (Hilson 2002a; 2002b). However, they do not fully acknowledge that geological characteristics are key to how access to gold is organized. The spatial approach

proposed here explicitly moves from a flat to a three-dimensional perspective: different miners work different parts of deposits located at different depths. We will show how 3D perspectives – that is, the knowledge of specific subterranean structures – play a major role in shaping interactions over access between miners. The embeddedness of 3D perspectives in the landscape of socio-political relations – in-depth geopolitics – is central to this article.

In-depth geopolitics: from surface to underground

Concessions for mineral or oil extraction have been portrayed mainly as contiguous spaces, Bridge (2009) argues, whereas in practice they are marked primarily by an agglomeration of access points and can be characterized as 'punctuated, discontinuous geographies of extraction [that] do not coincide well with notions of national territory' (*ibid*.: 46). Bridge builds on James Ferguson's critique (2005) of James Scott's (1998) focus on the nation state as territorial grid maker, in which he argues that in contemporary Africa mining companies are important organizers of space. Companies – oil companies serve as Ferguson's examples – carve out usable spaces to which their capital can 'hop', bypassing unusable spaces. He argues that the way in which companies secure spaces for mining – creating mining enclaves, for example – undermines the contiguous and bounded nature of national territories. Building upon this idea, Hannah Appel (2012: 439) shows what the 'hopping' of capital looks like at an oil site in Equatorial Guinea, describing 'how infrastructure becomes a key site through which oil and gas companies and Equatoguinean actors negotiate entanglement and disentanglement, responsibility and its abdication'. Both Ferguson (2005) and Appel (2012) show how the spatial organization of extraction is relevant to issues of sovereignty and governance, but they confine their view to the surface level. Bridge (2009) emphasizes the subsurface dimension of how capital 'hops' and 'lands' by paying attention to the ways in which operations tap into 'a netherworld of rocks and reservoirs'. The knowledge and techniques used to get access to underground wealth structure relations on the ground: they determine how sites are securitized, which patches are considered valuable, and which are dismissed as unusable.

The characteristics of access control and maintenance at specific mining concessions are strongly influenced by an interplay between three factors: (1) the stage of a mining operation (in particular the exploration and gold-producing mode); (2) the historical embeddedness of artisanal gold mining in local socio-political landscapes; and (3) the characteristics of the specific subterranean structures. It is this interplay that we term 'in-depth geopolitics'. Our approach builds on recent insights in the disciplines of geography and anthropology, which inform our rethinking of 'geopolitics'. Currently, those who use this term insist that attention should be given to conflicts playing out at different (spatial) scales and to power holders other than states (such as economic actors, including mining companies) (Cowen and Smith 2009). What we do in this article concurs with this alternative approach to geopolitics: we take mining concessions as sites for governance involving economic players (mining companies and artisanal miners) and political authorities positioned at national as well as local scales. But where we move beyond this approach is in the 'in-depth', 3D, aspect of our approach to

geopolitics, which ties in with the current attention to materiality in anthropology. Following the pioneering work of Tsing (2005), Ferry (2005) and Ferry and Limbert (2008), Richardson and Weszkalnys (2014) demonstrate how social studies should pay attention to the characteristics of mineral matters and infrastructures of extraction. Such a focus on the entanglement of the material with the social has proved to be very valuable for the study of mining practices. Subterranean territory that is targeted for mineral extraction can be seen as 'socio-natures' (Swyngedouw 1996; 2004; Gellert 2005): as ore bodies embedded in specific social and technical frames of possibilities and circumstances. Our study of 'in-depth geopolitics' builds on these scholarly developments. The article shows how ways of governing access to gold on mining concessions are informed by an intricate combination of social and natural factors: a socio-political field of relations anchored onto an underground of geological structures. In order to analyse these forms of governance, we look at two mining operations located in south-western Ghana: one at the exploratory stage and the other a large-scale producing mine. Before turning to our cases, however, we briefly reflect on our digging into geology.

Anthropological digging into geological perspectives

Anthropologists are aware of the problems of doing research in fields where they may lack knowledge of matters that require technical expertise. Whether such research concerns the anthropology of engineers (Latour 1987), financial experts (Ho 2009; Maurer 2005; Zaloom 2006) or geologists, it can raise access problems of different sorts. In order to develop an analytical eye for geological expertise, we carried out collective fieldwork in Ghana and visited the two concessions in the company of Henk Gewald, a retired geologist who previously worked for the mining company Anglo American. He was invaluable not only as an expert with whom we could discuss geology, but also as a co-interviewer. At Newmont, for example, Henk Gewald's presence made it possible to discuss geological specifics of the concession with company geologists. While looking at cross-sections of underground ore bodies on computer screens, we gained key insights into the company's uses of geological knowledge in working out social arrangements of cohabitation with artisanal miners. The presence of an expert in geology in our research team allowed us to see how knowledge about the underground is a major factor in organizing access control and maintenance (Ribot and Peluso 2003). In order to appreciate how this knowledge was instrumental in working out arrangements of cohabitation, we briefly recapitulate basic distinctions used by geologists.

Drawing the location of gold in a cross-section, Henk Gewald illustrated how geologists portray the underground world of ore bodies as disembedded from social circumstances on the surface (Figure 1). In reports accessible to the public, however, socio-technical information relevant to extraction is abridged using the terms 'reserves' and 'resources'.

Geological 'deep time' consists of slow processes in which small amounts of gases and liquids separate and travel to more accommodating places (Gewald 2010). The pathways for these 'migrants' are the cracks (veins and fractures) in the system. Quartz, some iron minerals and, occasionally, gold may travel along

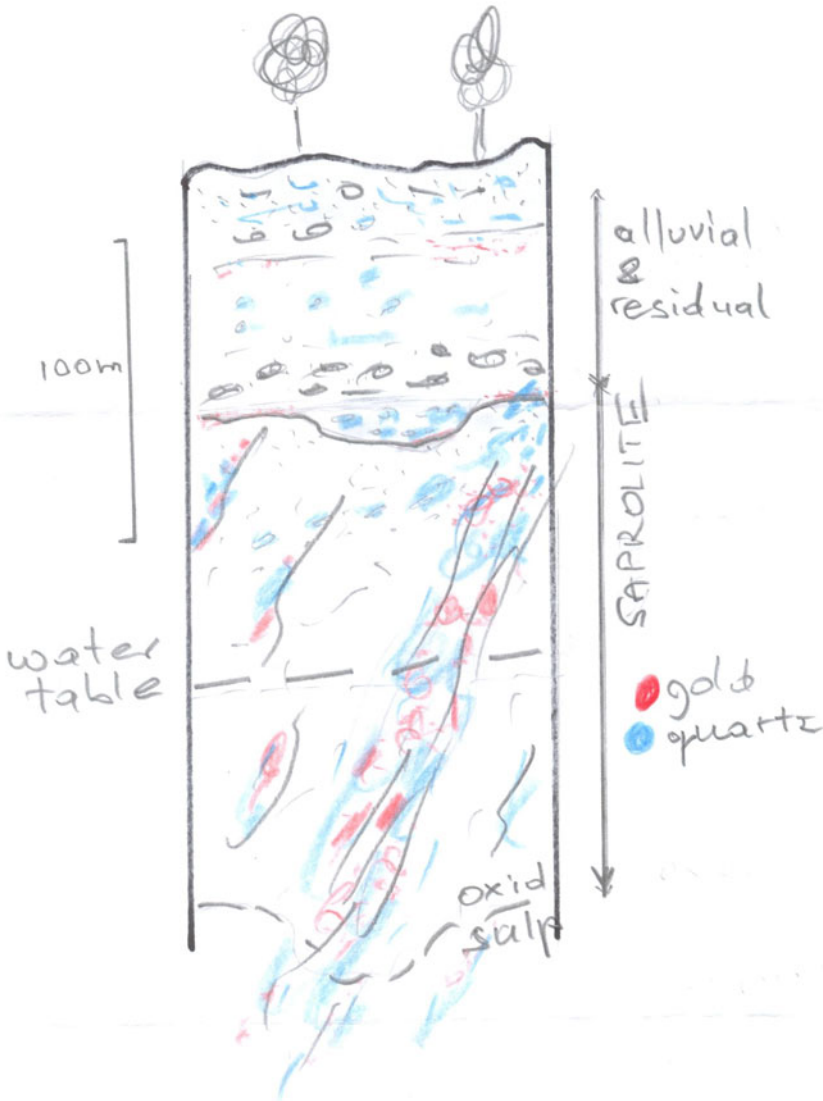

FIGURE 1 Cross-section depicting location of gold (Au).[1]

with such fluids. If stopped, this forms a 'deposit', which is called 'ore deposit' if it has sufficient economic value. Some parts of the ore are more easily extracted than others as a result of weathering, a process in which rocks, soils and minerals break

[1]We have chosen to use the original drawings done by Henk Gewald in the article.

down through contact with air and water. This may happen in situ (by oxidation), but it also results from erosion where soil has been transported by water. Figure 1 shows an upper layer ('alluvial and residual') of subsurface material that has been moved, then a layer of rocks that have been weathered by oxidation ('saprolites'), and a bottom layer of 'fresh rock'.[2]

In order to assess extractability, mining companies need to calculate whether and how ore deposits can be mined in a feasible way. Whereas a 'resource' and a 'reserve' are both considered potentially valuable deposits, a 'reserve' has the added characteristics of being legally, economically and technically feasible to extract. The distinction is used to guide decisions: is the mineral wealth located in a particular deposit valuable enough to invest in infrastructure? Do the social and political circumstances allow access to the ore? Parts of the deposit for which the answer is 'yes' are labelled as 'reserve'; other parts are classified as 'resource'. Since these social-technical circumstances may change over time, mining companies cannot base their decisions solely on theoretically informed 3D visualizations of space. Changes in the world market price of a specific mineral and/or political circumstances can turn resources into reserves and vice versa. As one of Keegan's exploration geologists told us: 'With gold at US$2,000 an ounce,[3] the whole of Ghana is going to be turned over; at $250 all projects go into mothballs.' Moreover, social circumstances and political factors play a major role in reclassifying 'ore' as either reserve or resource, and occasionally even stop projects completely (Welker 2014: 53; Sosa 2012: 204–5). The notions 'reserve' and 'resource' serve to classify ore bodies as socio-natures, a combination of social and natural factors. They force mining companies to assess the specific circumstances of the locality in which they would like to extract the ore.

In Ghana, the underground wealth is situated in social fields marked by a long history of artisanal mining and a specific political arena. While both companies in our study are legally the concession owners, in certain local settings the legal status attributed by the state is not the all-determining factor. In order to get at the ore, companies need to insert themselves into the already existing local social field: they need to engage in a politics of cohabitation by finding out how their own goals and capabilities for exploring and/or mining can be matched to the specifics of the local mining situation and political arena. For the two case studies, our analysis of in-depth geopolitics shows how 3D knowledge about ore bodies can be instrumental for formulating governance strategies, in which knowledge of the 2D social field is merged with a 3D perspective on ore. This combined knowledge serves not only to identify where competition over ore is to be expected, or which parts of ore bodies can be accessed only by industrial mining technology, but also what kind of cohabitation between large-scale and small-scale miners may be possible.

[2]Alluvial gold is 'free gold'; it is relatively easy to access because it is not contained in rocks, while gold that is 'locked up' needs to be liberated by crushing the gold material, and thus requires more technically advanced approaches.

[3]1 ounce = approximately 28.35 grams.

Keegan Resources: competing over an outcrop?

At the time of field research in January 2011, the Canadian 'junior' Keegan Resources[4] was developing an exploration concession in a rural area south-west of Kumasi. Keegan originated as a project of a group of friends from Vancouver, where they employed about ten staff. In Ghana, they employed fifteen to twenty expat staff and 150 to 200 Ghanaian employees, of which a good number came from communities surrounding their concession. Keegan's operation was considered to be fragile in terms of both its financial security on the market and the social setting in which it had to operate.

Keegan, as an exploration company, was small in size and had limited physical visibility; it employed a small number of staff and its camp at the project site consisted of only a few houses for lodging, a small canteen, some offices and a space to store and analyse core samples. Unlike big mining companies, facilities at the compound were limited and in the evenings staff members occasionally went to the neighbouring village to get a cold drink. The operations of the company in the concession area appeared small, due to the specific technical stage of exploration. A few drills were on-site, trying to map out the ore body, and there was a zone for metallurgical test work. A security system had been put in place but was rather limited: the compound was barely fenced and the concession not surveyed by a private security force. For its geopolitics, Keegan relied first of all on the police, and thus on the Ghanaian state. In a relatively remote area, with little state presence, this created a challenging situation where securing the company's rights as concession owner involved long and ongoing negotiations with the local village chief. The geopolitics in the 2D social field made the company dependent upon an assemblage of actors, some associated with the state, others with local authority structures.

The fragility of the operation, in terms of its scale, went hand in hand with a tense social situation that Keegan 'inherited' from its predecessor, the Canadian gold producer Bonte Gold Mines. Bonte, which had mined the alluvial deposits in the riverbeds of the concession from 1994 to 2004, was liquidated on 31 March 2004, following the results of cases filed against the company by shareholders and creditors. It left without rehabilitating the environment and failed to pay wages to workers or compensation to farmers (Campbell 2011).[5] According to Keegan's employees and management, the strained situation created by Bonte affected the way in which Keegan Resources was able to start its operations. Bonte's legacy shows that not only do actions of mining companies at the early stages of their own operation affect long-term relations with surrounding artisanal miners (Teschner 2013), but the actions of predecessors also have a significant impact on the wider contemporary social arena in which mining companies must operate.

Keegan's social setting was also strongly shaped by the current presence of artisanal miners in the concession area. Scholars have shown that companies and artisanal miners draw upon each other's knowledge to explore gold deposits.

[4]In February 2013, Keegan Resources renamed the company as Asanko Gold, a change that underscores the centrality of Ghana for the company's operation and also marks its transformation from an advanced stage exploration and development company to a significant gold producer. See <http://www.asanko.com>.

[5]See also articles and press releases at <http://www.infomine.com>, <https://www.modernghana.com>, <https://www.ghanaweb.com>, and the National Coalition on Mining Ghana.

Dumett (1998), for example, shows that the Wassa Gold Company, which operated in Ghana in the late 1800s, had few means to find gold other than searching for abandoned artisanal sites. Nowadays, too, foreign companies often need the knowledge of artisanal miners to lead them to productive sites (Luning 2014). At the same time, artisanal miners closely observe the methods of new companies (sometimes as employees) and, where possible, use these in their own operations (Luning *et al.* 2014). Similar processes took place in Keegan's concession, where company–artisan interactions could almost be characterized as forms of espionage. The CEO of Keegan explained to us that artisanal miners sometimes read companies' websites to explore places to mine. But the company itself also follows the artisanal miners; as the CEO stated: 'When we see where they are digging, we go drilling. When they see us drilling, they go digging.' In order to understand how skirmishes over forms of cohabitation between Keegan and artisanal miners were shaped by both the legacy of a previous gold-mining company and the history of artisanal mining in the concession, we need to apply a 3D geological perspective.

Keegan's main target, the source of the alluvial gold that Bonte and artisanal miners mined previously, appeared to be almost vertically located in a hill with a clear exit point to the surface (Figure 2), called the outcrop. As we describe in the introduction, in this geological situation both artisanal miners (*galamsey*) using artisanal methods and companies using industrial means can target the ore. The fact that this ore body is suitable for different scales of mining gave rise to an edgy situation in which multiple stakeholders (Keegan Resources, local communities and 'external' *galamsey*) expressed an interest and tried to claim and control access to the deposit. The in-depth geopolitics was strongly influenced by this potential competition over the ore, which made arrangements for cohabitation precarious and full of tension.

The incident described in the introduction shows the public contestation of the company's access to this part of the concession. The challenges were not limited to competition over resources, but also concerned recognition of status positions and legitimation of claims: the company may officially own the concession and mineral rights, but local artisanal miners consider their appropriation of this resource legitimate and see their chief as the appropriate authority.

Being embedded in this social arena, Keegan Resources was not in a position to exclude artisanal miners from its concession. On the contrary, its only hope was to work out some form of compromise in which it would try to regulate and confine artisanal miners' access to the concession. Its aim was to maintain sole access to the primary resource, but in exchange it accepted – on certain conditions – that artisanal miners would continue to mine the alluvial deposits in the riverbed, a strategy that, as noted earlier, is not uncommon (Hilson 2002a: 72). Miners originating from communities in the vicinity who were using artisanal methods were tolerated, but outsiders coming with machines were not. In order to work out such arrangements, staff of the company acknowledged their dependence on the local chiefs. In the company's office we were shown maps in which boundaries of stool lands of chiefs[6] were superimposed upon geological information concerning the area. Collaboration with the chiefs was

[6]In the south of Ghana, the stool is the symbolic object associated with chieftaincy. In colonial times, chiefdoms became organized as territorial units. Ever since, stool lands have been formally recognized by the state and are governed by chiefs (Firmin-Sellers 1995).

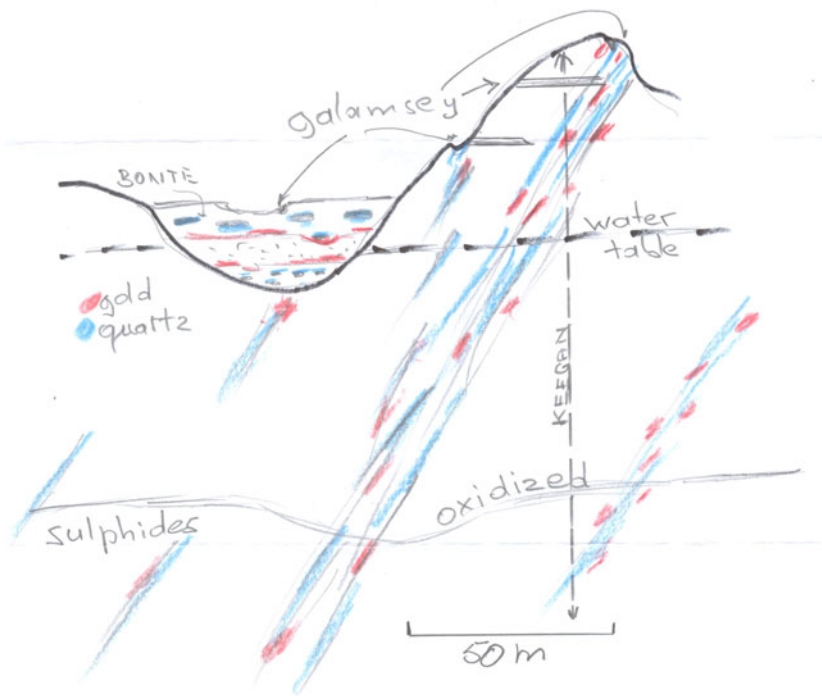

FIGURE 2 Keegan's geological situation.

made more problematic because some of them were pushing to re-mine Bonte's former area with excavators, so we were told. Even though Keegan was not interested in mining this area itself, it wanted to prevent 'foreigners' with machines from getting access to the riverbed, since doing so would open the door to the whole of the Ghanaian *galamsey* world: 'We just want traditional ways of mining and local people,' they argued. At the time of our research, we could not confirm whether the chiefs were indeed persuaded to collaborate with the company on these terms, but the case shows their key position in negotiating cohabitation.

The example clearly illustrates the merits of attending to in-depth geopolitics. For governing access to gold, the company depended on the chiefs as a consequence of the 3D geology, an ore deposit that created direct competition over access, and the 2D social field in the area. Being a small exploration company, with limited possibilities to enforce its mineral rights, the company sought to negotiate ways of 'confined' cohabitation, limiting: (1) which area could be accessed; (2) which groups could get access; and (3) which techniques would be allowed. In order to realize these limitations, the company 'played the card' of tradition and autochthony (Ceuppens and Geschiere 2005; Geschiere 2009). In other words, it was willing to allow a key role for the chiefs and the local population, who claimed access based on property rights and autochthony, at the expense of 'foreign' *galamsey* (from elsewhere in Ghana), who would be more difficult to control and could access the ore in the hill on a larger scale with their excavators.

Newmont: sharing a golden table?

Newmont Mining Company is a large-scale gold-producing company with operations in the US, South America, Africa, Indonesia and Australia (Newmont 2009). Newmont's mine in Ghana is located in the rural area of the Brong Ahafo region in Western Ghana, not far from the urban centre of Sunyani. At the start of mining operations in 2006, the Ahafo mine processed ore from seven major pits, extending along a 40 kilometre strike (Hilson 2011: 10935), with substantial infrastructure, such as large mining equipment and roads. Here we find the typical spatial arrangement for a large-scale producing mine: an area with offices, restaurants, the processing plant and the central open pit, which are secluded and heavily securitized by a private security service. This part of the concession resembles the enclaved mining zones described by Ferguson (2005), Appel (2012) and MacEachern (2010). Even though this secluded area is only a small part of the concession as a whole, it dominates the local landscape. An extensive corporate social responsibility (CSR) programme with a large variety of community activities (Newmont 2005; 2009) adds to the company's visibility. The size of the operation and its visibility, typical for the production stage, affected the claims and expectations entailed in company–community relations.

Several studies describe how the Ahafo mine came into the hands of Newmont as part of the takeover of Normandy, an Australian gold-mining company, in 2002 (Hilson 2011; Welker 2014). Normandy had done no more than explore the area; no efforts had been made to build a mine, nor had there been any attempts to set up a CSR programme. When Newmont started its mining operations in 2006, the company initiated a CSR programme from scratch: in contrast to the case of Keegan, the company was not burdened by older legacies of tensions and promises. The Ahafo mine was seen by Newmont's CSR staff as a flagship case where CSR could be tailored exactly as it should be (Welker 2014: 35)[7] and where Newmont would be a 'good company', working hard to gain its licence to operate (*ibid.*: 54–5). This was all the more urgent at the Ahafo mine, given the social field in which chiefs were dominant. Kapelus (2009: 100) describes the company's dependence on traditional power holders at the expense of local government officials, and Hilson (2007: 51) details the pitfalls associated with representation of 'the local community'.

As in the case of Keegan, the area where Newmont operates has a long history of artisanal gold mining. According to Griffis *et al.* (2002: 184), the Gold Coast Geological Survey outlined the broad-scale geology of the area and noted old alluvial workings in the Kenyase area. Indeed, one of the striking features of the present situation is the prominence of artisanal miners on Newmont's mining concession. However, artisanal mining is barely mentioned in reports on community relationships. Although Newmont's *Community Relationships Review* (2009) acknowledges the historical presence of artisanal mining, Kapelus's (2009)

[7]Hilson (2011) acknowledges that this has had positive effects, but also points out that it led the company to formulate the CSR in an insulated manner, depending primarily on its own best practices, ICMM (International Council on Mining and Metals) standards and consultants, rather than on strong ties with and inputs from the community.

in-depth narrative on Newmont`s Ahafo mine gives it no mention, indicating that artisanal mining has never been an explicit topic for company policies.

During our fieldwork, the question did arise of how Newmont negotiates the presence of artisanal miners and their access to the deposits. Whereas staff members in charge of public and community relations told us a lot about CSR and company–community relations, they remained relatively silent on artisanal mining. Our conversations with geologists, however, raised interesting perspectives on how the company tried to work out forms of cohabitation with artisanal miners. Newmont tolerates these artisanal miners, a strategy that is informed by 'in-depth geopolitics': the socio-political structures as well as the geological characteristics of the underground area.

The artisanal miners, whose major operation concentrated on a site called Sikamina, meaning 'the pit of money', ran relatively large operations that used different kinds of machines and generated substantial revenues. The geologists showed us a 3D perspective on industrial extraction, as well as how this could be carried out in the social field of artisanal mining. We were presented with a cross-section to illustrate the specific structure of the way gold is positioned underground, and how – given such a 3D perspective – artisanal and industrial mining could cohabit. As we will demonstrate, the in-depth geopolitics of the setting allows for a solution in which the area of Sikamina is currently an artisanal site, even though Newmont proposes a new open pit in that area to be mined in the future.

Whereas Keegan's ore body was positioned vertically in a hill, in Newmont's Sikamina gold is positioned in multiple horizontal 'tables', as indicated in Figure 3. The water level is located between the first and the second table. This geological specificity leads to a situation in which both artisanal miners and the company have access to, and are partly in competition over, parts of the deposit. How could this social field of friction result in a scenario for feasible cohabitation? Let us first describe the current situation, in which only artisanal miners are digging for ore.

During our visit to Sikamina, a committee in charge of governing this artisanal mining site hosted us. The chairman belonged to one of the landowning families, and other members had been chosen because of their experience and expertise as gold miners. The committee explained that, before the area became a mining site, the landowners had been cocoa farmers. Three years ago they began renting the area to miners, which they expected to provide more money than Newmont's compensation for cocoa trees. Access to the gold was secured by combining property, the landowners, with ability, the miners (Ribot and Peluso 2003). Subsequently, as we will see later, access to the deposit also had to be negotiated with the concession owner, Newmont.

After introductions, we were given permission to enter the site. The area consisted of a large number of ghettos (see Figure 4): distinct spaces where 'gangs' run underground mining operations. Revenues are based on the amount of bags of ore produced and are shared on a weekly basis between all people involved in the operation. These typically include the committee, the landowner, the plant owner (who provides electricity), the labourers, the financier, the ghetto owner, and contractors (who provide the jackhammer, for example). Interestingly, the surface level of the ghetto – with a main shaft at the centre – does not reflect the layout of the underground area. From the vertical shaft, going down to around 50 metres, the operation extends into horizontal 'drives'.

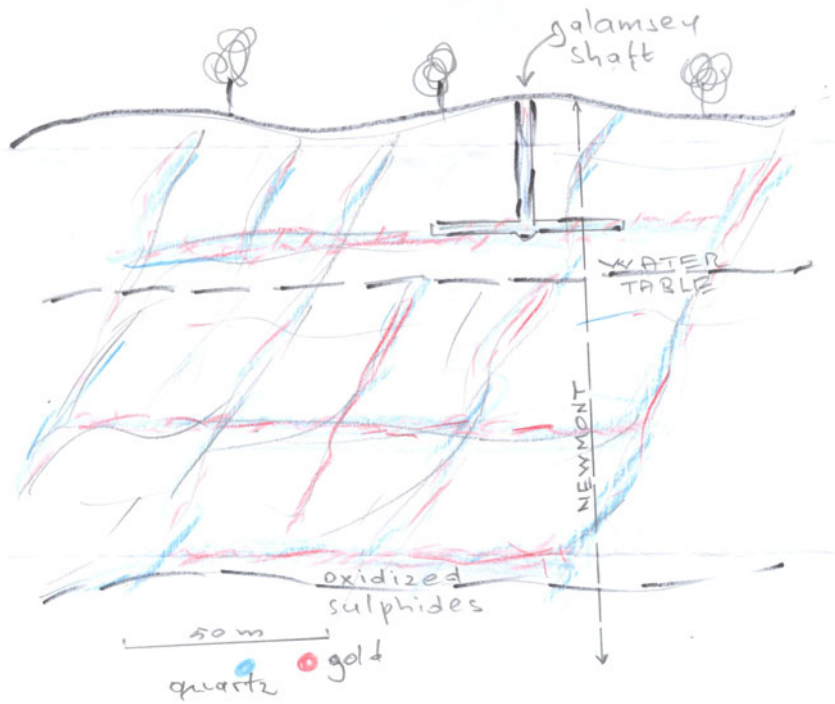

FIGURE 3 Newmont's geological situation.

In each drive, work teams consisting of watchmen, people with chisels, hammers and carriers, and occasionally someone with a jackhammer, try to extend the 'face' (the far end) of the drive as quickly as possible. Neighbouring ghettos may cross paths underground, and conflicts can arise. In such cases, the committee is called upon to assess and resolve the issue.

Although Newmont is the official owner of the concession, the artisanal site within its concession is well and independently organized: a clear governing system with accepted authorities had been established over the years. Moreover, miners in this area perceived it as their right to mine there; the fact that Newmont accepted their presence was not seen as a gift, but as the confirmation of their rights. Although Newmont did not necessarily share this perception, it did allow the artisanal miners to continue mining. The reasons for this are both geological and socio-political.

First of all, the artisanal mining operations in 'the pit of money' target the first table of gold, which is situated above the water table. As one of Newmont's geologists explained to us, Newmont uses the water level as the natural barrier for artisanal mining. Although artisanal miners are able to go relatively deep with simple methods, it would be too difficult and expensive for them to pass the natural water level. Once the artisanal miners have mined the first table of gold and reached the water level, they have to abandon the area. At this point, Newmont takes over and develops their pit.

FIGURE 4 Ghettos at Sikamina.

Secondly, Newmont operates in a specific social and political landscape. The organization of the mining site confirms the importance of local authorities (Newmont 2009; Hilson 2007; 2011) and land use structures: local authorities and gold miners team up in governing the site. Newmont's strategy to 'give' part of the ore to artisanal miners is not so much based on generosity, but born out of necessity. Even though this company is a major transnational corporation and has the legal title to the concession, on the ground it is faced with a social field of land users and local authorities that restricts the company's options for organizing its operations. Newmont knows that, in the twenty-first century, it cannot get rid of artisanal mining. This is the result not just of alliances between chiefs, landowners and artisanal miners, but also of converging interests between the local population and national politicians. As Newmont's senior geologist explained: 'The company cannot easily ask the government to remove all these people, because they represent 10,000 votes.' Moreover, considering the artisanal

miners' determination and conviction that they have the right to mine, forbidding artisanal mining would create serious tensions in the area and therefore might influence Newmont's social licence to operate.[8] If it were not for the water level serving as a natural barrier, the tensions around the mine and the competition for its ore would be much more intense. In this case, the in-depth geopolitics that shapes negotiations over access forces Newmont to accept cohabitation in the present. However, this is only temporary since the geological conditions promise the company the prospect of exclusive access in the near future.

Comparison of two cases

This article seeks to contribute to a comparative approach to extraction practices, involving both fossil fuels and minerals, such as gold, by adopting a 3D perspective. We have analysed the in-depth geopolitics of two gold operations in terms of three characteristics: (1) the type of large-scale mining operation; (2) the local history of gold mining and the socio-political landscape; and (3) the geological layout. The combination of these factors influences the ways in which access to gold is governed and negotiated in specific politics of cohabitation.

Typically, Ghanaian gold concessions for both exploration companies (known as 'juniors') and for gold-producing companies (known as 'majors') encompass substantial zones marked by the presence of villages, agricultural lands and artisanal mining sites. This forces companies to work out arrangements of cohabitation. In existing studies of the governance of extraction, in which oil features prominently, the enclaved nature of extractive practices is emphasized. Ferguson discusses the concept of 'extractive enclaving' (2005: 378) and Bridge (2009) argues that extraction produces classic enclave economies that are deeply integrated into the global economy but also fragmented from national space. In this article we have sought to explore a broader range of the spatial arrangements characteristic of extractive practices, by looking at a 'minor' exploration and a 'major' production operation.

In the first case, the exploration company of Keegan Resources, the notion of 'enclave' seems to be altogether at odds with the actual spatial arrangement. Instead, we found that 'intertwinement' is a core characteristic of the spatial arrangement. Even in the case of Newmont, the major producing company, the notion of enclave must be nuanced. We see that the company securitizes and closes off patches within the concession where its capital (machines, processing plant and staff) and access points to the deposit (Bridge 2009) are located, but other parts of the concession may be 'left' to artisanal miners.

The case studies show that, for gold mining, the notion of 'enclave' may be too rigid, leaving the question of how different mining companies manage to govern their concession in a specific context under-analysed. The two cases foreground how differences in operations are part of the in-depth geopolitics that affects modalities of 'governing extraction'. The attention of Emel *et al*. (2011) to 'subterranean sovereignty' urges researchers to analyse how local politics interrupt the

[8]For more references to the notion of a 'social licence to operate', see, for example, Bridge (2009), Prno and Slocombe (2012) and Baba and Raufflet (2014).

state–company sovereignty process. The cases we have presented speak directly to that research agenda. The concessions that Keegan Resources and Newmont have obtained from the Ghanaian state give these companies legal access to subterranean ore deposits, but they are only partially able to benefit from this. In both cases, we see that the companies still have to work out socio-spatial divisions of ore. Ribot and Peluso (2003) rightly stress that factors such as technology, knowledge, authority and identities play a key role in access mechanisms. Our approach to in-depth geopolitics applies their insights by connecting differences in technological capabilities and geological knowledge to the social field of localized politics and social organization. Companies use technology and geological knowledge to carry out their mining operations in regions where artisanal mining has a long history and strong associations with traditional forms of land use and ownership. Interestingly, the way in which artisanal miners can 'interrupt' state–capital alliances is due to their association with chiefs, who can still act as landowners.

The two cases show two different ways in which foreign mining companies appear to depend upon local political authorities. On the Keegan Resources exploration concession, chiefs play a major role. In the eyes of artisanal miners, the real authority is not the state-backed company but the chief. In working towards governance arrangements, Keegan Resources was very much aware of its dependence on this local authority. At one point the chief pleaded in favour of using machines to rework the zone dredged by Bonte. The company tried to curb this by proposing an alliance with the chief to restrict artisanal mining to local people and local techniques, thereby trying to confine access to those with property rights, yet using limited technologies. The tense situation that resulted increased the company's dependence on the chief to work out a form of cohabitation in which artisanal mining could be confined. In this case, foreign capital was unable to rely on the state, and was compelled instead to give weight to a specific category of citizens – traditional chiefs. This example underscores how neoliberal shifts in governance – where the state must retreat and give room to private actors – tend to strengthen rather than weaken the position of customary authorities (Geschiere 2007).

At Newmont's concession, where artisanal miners are tolerated in the artisanal mining site Sikamina, we similarly witnessed the central role of traditional authorities. Newmont's 'generosity' of 'leaving' this area to the artisanal miners was based on a pragmatic assessment of the social field in which the company operates: the company reckoned that chiefs, landowners and artisanal miners would team up if the company tried to 'empty' its concession by forcing them out. These strategic arrangements with artisanal miners are not part of the formal CSR policies. They came to the fore only when we delved into the geological details of Newmont's mining projects.

Teaming up with geologist Henk Gewald as co-researcher opened the doors to technical experts with surprisingly relevant information on the politics of cohabitation. Their knowledge about the underground positioning of ore (the 3D characteristics) informs strategies for controlling and maintaining access in the 2D social field of stakeholders. We see that Newmont could use the geological knowledge to determine strategies of 'access maintenance' for future gold production. Keegan found it more problematic to safeguard its access to ore, since that access depended on local authorities as mediators.

Our approach to in-depth geopolitics incorporates the 3D optics of companies, which allows for a more nuanced approach to issues of access and sovereignty

than the insights offered by Ferguson in 'Seeing like an oil company' (2005). We have seen that concessions may seem to give a company a legal space to rule, but in practice this has to be exercised with care. Our analysis allows us to use Ferguson's (*ibid.*) distinction between 'usable' and 'unusable' space in more subtle and dynamic ways: the strategic interplay between usable and unusable spaces within concessions is best seen as an outcome of both struggles over access and strategies for cohabitation. In the case of Newmont, geological knowledge about the location of the water table in between two tables of ore bodies is used to decide how to control and maintain access: artisanal miners are 'given' the upper layer of the ore body, and the company knows – or presumes – that it will be able to mine what is underneath the water table sometime in the future. As a result of pressures in the social field and company–community strategies, the company decided to consider the upper layer of usable ore as unusable for its own extraction, 'leaving it' to artisanal miners. This is an interesting example of 'vertical reciprocity' (Adey 2010; Bridge 2013): Newmont deems the upper layer 'unusable', giving up ore in the present in order to govern and secure long-term social relations. Interestingly, we have seen that local people take a different view. They do not view the company as 'giving' them permission and access, as they are entitled to take what belongs to them in the first place. 'Local interruptions' (Emel *et al.* 2011) are first of all produced by differences in perception on access, legitimate authorities and property regimes.

In contrast, Keegan Resources was not in a position to strategically distinguish between usable and unusable, to 'give up' a specific part of the ore for the artisanal miners in order to safeguard another part for themselves. The geological 3D situation simply did not allow for this, since the company and the artisanal miners both wanted to work the same ore, and there was no barrier such as a water table that could be used to realize a split arrangement similar to Newmont's case. Keegan's only option to prevent artisanal miners from encroaching upon 'their' ore was to work out an arrangement with traditional chiefs.

Conclusion

We have seen that there is an extensive literature on the relationship between large-scale and small-scale mining. Too often, these two types of miners are portrayed as if they act in isolation from groups with other identities, be they state officials, local chiefs or farmers. Notions such as 'stakeholders' and 'company–community relations' (Ballard and Banks 2003) have inhibited proper analyses of the empirical processes of socio-politics on the ground. Only recently – and belatedly – have scholars such as Hilson and Geenen started to look into the nexus between mining and local politics. The link between traditional political authorities and mining is particularly pertinent in Ghana and resonates with the longstanding relationship between gold mining and political structures in Akan history. Wilks has shown how, since the fifteenth and sixteenth centuries, gold mining facilitated the accumulation of (unfree) labour in Akan societies, which in turn triggered an increase in agricultural production. This process of wealth creation was at the basis of the rise of Akan polities (Wilks 1977: 521). In colonial and postcolonial Ghana, chiefs have been recognized by state authorities as custodians of the land (Ubink 2007), but also as recipients of

monies awarded by mineral development funds (MDFs) (Standing and Hilson 2013). This often causes chiefs to be in league with the state or mining companies, but our article shows that other alliances are possible as well. The connection between mining and political histories allows for identifications between local political authorities and artisanal miners, who see their work as a continuum of what their ancestors did (Hilson 2002b). Notions of autochthony allow artisanal miners, and local community members more broadly, to see the ore bodies as 'theirs'. Politics of belonging (Geschiere 2009) and shifting alliances between miners and authorities of different kinds thus deserve full attention in studies on mining.

This article contributes to such a focus by rethinking geopolitics (Cowen and Smith 2009) and access (Ribot and Peluso 2003). This allows us to situate mining operations in the local socio-political context in which they operate, as well as to recognize the relationships between different miners within broader social contexts of governance. The 'interruptions' we then witness provide interesting nuances on the state–capital alliances facilitated by 'subterranean sovereignty'; we see that local alliances between traditional authorities and miners can make companies vulnerable and dependent upon collaborations with locals. We also see that miners are recognized as politically valuable for their votes, and this may force state authorities to collaborate with miners 'against' companies. When analysing the politics of cohabitation in mining concessions and their surroundings, governance arrangements come to the fore based on complex (temporary) alliances and cleavages that are informed by socio-historical circumstances.

We have used the concept of 'in-depth geopolitics' to foreground how such governance arrangements depend not only on social situations, but also on the geological and technical aspects of mining. In that respect, the article develops further the recent analytical probing of articulations between the social and the natural. Studies on the materiality of minerals and mining infrastructure (Richardson and Weszkalnys 2014) show us that resource extraction depends on socionatures, on intricate entanglements of social and natural aspects. The notions of 'reserve' and 'resource' illustrate how the underground is variously classified according to such schemas of entanglement. Ore bodies are identified and their classification incorporates assessments of social, political, geological and technical capabilities to access ore. Knowledge of socionatures, and hence of the complex possibilities of accessing and extracting minerals, is of crucial importance in the governance strategies of companies.

Acknowledgements

We would like to thank the anonymous reviewers for their helpful comments and suggestions, and Henk Gewald, a professional geologist who proved to be invaluable as co-researcher during the fieldwork in Ghana. The authors have received financial support from the Treub Maatschappij and the Prins Bernhard Cultuurfonds to conduct fieldwork.

References

Adey, P. (2010) *Aerial Life: spaces, mobilities, affects*. Oxford: Wiley-Blackwell.

AGA (2010) *AngloGold Ashanti: sustainability report*. Johannesburg: AngloGold Ashanti (AGA) <http://www.anglogoldashanti.com/en/Media/Reports/Sustainability%20Reports/AGA-sustainable-gold-2010.pdf>, accessed August 2014.

Andrew, J. S. (2003) 'Potential application of mediation to land use conflicts in small-scale mining', *Journal of Cleaner Production* 11 (2): 117–30.

Appel, H. (2012) 'Walls and white elephants: oil extraction, responsibility, and infrastructural violence in Equatorial Guinea', *Ethnography* 13 (4): 439–65.

Aubynn, A. (2006) '"Live and let live": the relationship between artisanal/small-scale and large-scale miners at Abosso Goldfields, Ghana' in G. Hilson (ed.), *Small-scale Mining, Rural Subsistence and Poverty in West Africa*. Rugby, UK: Practical Action Publishing.

Aubynn, A. (2009) 'Sustainable solution or a marriage of inconvenience? The coexistence of large-scale mining and artisanal and small-scale mining on the Abosso Goldfields concession in Western Ghana', *Resources Policy* 34: 64–70.

Baba, S. and E. Raufflet (2014) 'Managing relational legacies: lessons from British Columbia, Canada', *Administrative Sciences* 4 (1): 15–34.

Ballard, C. and G. Banks (2003) 'Resource wars: the anthropology of mining', *Annual Review of Anthropology* 32: 287–313.

Bridge, G. (2009) 'The hole world: spaces and scales of extraction', *New Geographies* 2: 43–8.

Bridge, G. (2013) 'Territory, now in 3D!', *Political Geography* 34: 55–7.

Campbell, B. (2011) 'Canadian mining in Africa: "do as you please" approach comes at high cost', *Canadian Dimension* 45 (1): 28–32.

Ceuppens, B. and P. Geschiere (2005) 'Autochthony: local or global? New modes in the struggle over citizenship and belonging in Africa and Europe', *Annual Review of Anthropology* 34: 385–408.

Cowen, D. and N. Smith (2009) 'After geopolitics? From the geopolitical social to geoeconomics', *Antipode* 41 (1): 22–48.

Dumett, R. E. (1998) *El Dorado in West Africa*. Athens OH and Oxford: Ohio University Press and James Currey.

Emel, J., M. T. Huber and M. H. Makene (2011) 'Extracting sovereignty: capital, territory, and gold mining in Tanzania', *Political Geography* 30: 70–9.

Ferguson, J. (2005) 'Seeing like an oil company: space, security and global capital in neoliberal Africa', *American Anthropologists* 107 (3): 377–82.

Ferry, E. E. (2005) *Not Ours Alone: patrimony, value and collectivity in contemporary Mexico*. New York NY: Columbia University Press.

Ferry, E. E. and M. Limbert (2008) *Timely Assets: the politics of resources and their temporalities*. Santa Fe NM: School of Advanced Research Press.

Firmin-Sellers, K. (1995) 'The politics of property rights', *American Political Science Review* 89 (4): 867–81.

Geenen, S. (2015) 'Hybrid governance in mining concessions in Ghana'. Field report, 6 November <http://sarageenen.net/?p=337>, accessed 8 March 2016.

Gellert, P. (2005) 'For a sociology of socionature: ontology and a commodity-based approach' in P. Ciccantell, G. Seidman and D. Smith (eds), *Nature, Raw Materials and Political Economy*. The Hague: Elsevier Science/JAI Press.
Geschiere, P. (2007) 'Epilogue. "Seeing like a state" in Africa: high modernism, legibility and community', *African Studies* 66 (1): 129–34.
Geschiere, P. (2009) *The Perils of Belonging: autochthony, citizenship, and exclusion in Africa and Europe*. Chicago IL: Chicago University Press.
Gewald, H. (2010) 'Gold as a geological item' in C. Panella (ed.), *Worlds of Debts: gold mining in West Africa as an interdisciplinary field of study*. Amsterdam: Rozenberg Publishers.
Griffis, R. J., K. Barning, F. L. Agezo and F. K. Akosah (2002) *Gold Deposits of Ghana*. Accra: Minerals Commission Ghana.
Hilson, G. (2002a) 'An overview of land use conflicts in mining communities', *Land Use Policy* 19 (1): 65–73.
Hilson, G. (2002b) 'Land use competition between small- and large-scale miners: a case study of Ghana', *Land Use Policy* 19 (2): 149–56.
Hilson, G. (2007) 'Championing the rhetoric: corporate social responsibility in the Ghanaian mining sector', *Greener Management International* 53: 43–56.
Hilson, G. (2011) 'Inherited commitments: do changes in ownership affect corporate social responsibility (CSR) at African gold mines?', *African Journal of Business Management* 5 (27): 10921–39.
Hilson, G. and N. Yakovleva (2007) 'Strained relations: a critical analysis of the mining conflict in Prestea, Ghana', *Political Geography* 26 (1): 98–119.
Hilson, G., N. Yakovleva and S. M. Banchirigah (2007) '"To move or not to move": reflections on the resettlement of artisanal miners in the Western Region of Ghana', *African Affairs* 106 (424): 413–36.
Ho, K. (2009) *Liquidated: an ethnography of Wall Street*. Durham NC and London: Duke University Press.
Jennings, N. S. (1994) 'Small-scale mining: a labour and social perspective' in A. J. Ghose (ed.), *Small-scale Mining: a global overview*. Rotterdam: A. A. Balkema.
Kapelus, P. (2009) 'Appendix 1: narrative report 1 D Ahafo mine, Ghana' in *Community Relationships Review: global summary report*. Accra: Newmont Ghana Gold Limited.
Latour, B. (1987) *Science in Action: how to follow scientists and engineers through society*. Boston MA: Harvard University Press.
Lentz, C. (2006) 'Land rights and the politics of belonging in West Africa: an introduction' in R. Kuba and C. Lentz (eds), *Land and the Politics of Belonging in West Africa*. Leiden: Brill.
Luning, S. W. J. (2014) 'The future of artisanal miners from a large-scale perspective: from valued pathfinders to disposable illegals?', *Futures* 62 (A): 67–74.
Luning, S. W. J., J. Jansen and C. Panella (2014) 'The mise en valeur of the gold mines in the Haut-Niger, 1918–1939', *French Colonial History* 15: 67–86.
MacEachern, S. (2010) 'Seeing like an oil company's CHM programme: Exxon and archaeology on the Chad Export Project', *Journal of Social Archaeology* 10 (3): 347–66.
Maurer, B. (2005) *Mutual Life, Limited: Islamic banking, alternative currencies, lateral reason*. Princeton NJ: Princeton University Press.

Newmont (2005) *Environmental and Social Impact Assessment: Ahafo South Project*. Accra: Newmont Ghana Gold Limited.

Newmont (2009) *Community Relationships Review: global summary report*. Accra: Newmont Ghana Gold Limited <http://s1.q4cdn.com/259923520/files/doc_downloads/crr/CRR-Global-Summary-Report-and-Appendices-English.pdf>, accessed 15 July 2014.

Prno, J. and D. S. Slocombe (2012) 'Exploring the origins of "social license to operate" in the mining sector: perspectives from governance and sustainability theories', *Resources Policy* 37 (3): 346–57.

Ribot, J. C. and N. L. Peluso (2003) 'A theory of access', *Rural Sociology* 68 (2): 153–81.

Richardson, T. and G. Weszkalnys (2014) 'Resource materialities: new anthropological perspectives on natural resource environments. Introduction', *Anthropological Quarterly* 87 (1): 5–30.

Scott, J. (1998) *Seeing Like a State: how certain schemes to improve the human condition have failed*. New Haven CT: Yale University Press.

Sikor, T. and L. Lund (2009) 'Access and property: a question of power and authority', *Development and Change* 40 (1): 1–22.

Sosa, I. (2012) 'Responsible investment case studies: Newmont and Goldcorp' in J. Sagebien and N. M. Lindsay (eds), *Governance Ecosystems: CSR in the Latin American mining sector*. London: Palgrave.

Standing, A. and G. Hilson (2013) 'Distributing mining wealth to communities in Ghana: addressing problems of elite capture and political corruption'. U4 Issue 5. Bergen: U4 Anti-Corruption Resource Centre.

Swyngedouw, E. (1996) 'The city as a hybrid: on nature, society and cyborg urbanization', *Capitalism, Nature, Socialism* 7 (2): 65–80.

Swyngedouw, E. (2004) *Social Power and the Urbanization of Water*. Oxford: Oxford University Press.

Teschner, B. (2013) 'How you start matters: a comparison of Gold Fields' Tarkwa and Damang mines and their divergent relationships with local small-scale miners in Ghana', *Resources Policy* 38: 332–40.

Tschakert, P. (2009) 'Digging deep for justice: a radical re-imagination of the artisanal gold mining sector in Ghana', *Antipode* 41 (4): 706–40.

Tsing, A. L. (2005) *Friction: an ethnography of global connection*. Princeton NJ: Princeton University Press.

Ubink, J. (2007) 'Traditional authority revisited: popular perceptions of chiefs and chieftaincy in peri-urban Kumasi, Ghana', *Journal of Legal Pluralism* 55: 123–61.

Welker, M. (2014) *Enacting the Corporation: an American mining firm in post-authoritarian Indonesia*. Berkeley and Los Angeles CA: University of California Press.

Wilks, I. (1977) 'Land, labour, capital and the forest kingdom of Asante: a model of early change' in J. Friedman and M. J. Rowlands (eds), *The Evolution of Social Systems*. London: Duckworth.

Zaloom, C. (2006) *Out of the Pits: traders and technology from Chicago to London*. Chicago IL: University of Chicago Press.

Abstract

Studies of articulations between large- and small-scale mining have overlooked the subterranean dimension of extraction and ignored how mining companies and artisanal miners cohabit in places with long histories of small-scale mining and are affected by their different capacities to access specific mineral deposits. Drawing on a study of two gold concessions in Ghana, this article focuses on three factors that influence modalities of governing access to gold in such sites: the stage of a mining operation, the local socio-political context, and the characteristics of the subterranean structure. We call the combination and interplay of these factors 'in-depth geopolitics'. The article shows how this interplay affects the strategies used by both large- and small-scale miners to work out arrangements of cohabitation and ways of governing access, control and maintenance to gold in spatial settings where both types of gold mining occur side by side. By tracing ethnographically the variations of 'in-depth geopolitics', this article critically engages with ideas of subterranean sovereignty, mining enclaves, state–company–community relations, and the socio-spatial characteristics of mining concessions.

Résumé

Les études sur les articulations entre les activités minières à grande et à petite échelle ont occulté la dimension souterraine de l'extraction et ignoré la manière dont les sociétés minières et les artisans mineurs cohabitent dans des lieux qui ont une longue histoire d'exploitation minière à petite échelle et sont affectés par différentes capacités à accéder aux gisements. S'appuyant sur une étude de deux concessions aurifères au Ghana, cet article traite de trois facteurs qui influencent les modalités de gouvernance d'accès à l'or sur ces sites : le stade d'exploitation minière, le contexte sociopolitique local et les caractéristiques de structure souterraine. Les auteurs appellent « géopolitique en profondeur » la combinaison et l'interaction de ces facteurs. L'article montre comment cette interaction affecte les stratégies utilisées par les mineurs à grande et à petite échelle pour trouver des modes de cohabitation et de gouvernance d'accès, de contrôle et de maintenance de l'or dans les espaces où se côtoient ces deux types d'exploitation aurifère. En faisant un tracé ethnographique des variations de « géopolitique en profondeur », cet article traite de manière critique des idées de souveraineté souterraine, d'enclaves minières, des relations État/entreprise/communauté et des caractéristiques socio-spatiales des concessions minières.

Re: Work division co-authored manuscript Hamburg and Leiden, 04-01-2021

To whom it may concern,

This statement details the work division of the following publication:
Luning, S. & Pijpers, R.J. (2017). Governing access to gold in Ghana: in-depth geopolitics on mining concessions. *Africa* 87 (4): 758–79

Data collection
Data for this article was primarily collected during field research carried out by Henk Gewald (a senior exploration geologist), Sabine Luning (co-author) and Robert Pijpers (co-author) in 2011. This two-week collaborative field research was part of a 3½ month field research period on forms of co-habitation between large-scale mining, small-scale mining and agriculture conducted by Robert Pijpers (2010-2011).

Writing
During a two-day 'writeshop', article focus and structure were discussed and a work division agreed upon. The article contains eight sections. Three sections were written in ongoing conversation, while the remaining five sections were written under the lead of one of the authors, followed by comments and revisions made by the other author. The manuscript was finalized in another round of joint reading and revisions.

Pijpers has taken lead for the sections 'Cohabitation: negotiating access and control', 'Keegan Resources: competing over an outcrop?' and 'Newmont: sharing a golden table?'. Luning has taken lead for the sections 'Anthropological digging into geological perspectives' and 'Conclusion'. The sections 'Introduction', 'In-depth geopolitics: from surface to underground' and 'Comparison of two cases' were developed in constant conversation and with equal contribution. Final streamlining was done by Pijpers.

In case of further questions, please contact the authors.

Yours sincerely,

Dr. Sabine Luning
Associate Professor
Institute for Cultural Anthropology and Development Sociology
Leiden University
+31715276614
sluning@fsw.leidenuniv.nl

Dr. Robert Pijpers
Postdoctoral Researcher
Institute of Social and Cultural Anthropology
University of Hamburg
+4915782827809
Robert.pijpers@uni-hamburg.de

Africa 88 (4) 2018: 863–66 doi:10.1017/S0001972018000505

Mining gold in Ghana: debate

10,000 miners, 10,000 votes: politics and mining in Ghana

Samuel Aniegye Ntewusu

Introduction

In their article 'Governing access to gold in Ghana: in-depth geopolitics on mining concessions', Luning and Pijpers (2017) discuss important political issues around mining in Ghana. Using the companies Keegan and Newmont as units of analysis, and drawing on insights from geography and anthropology, the authors call for an alternative approach to geopolitical issues in mining. They point out that mining concessions are sites of governance that involve economic players – that is, mining companies and artisanal miners/*galamsey* – and political authorities positioned at national as well as local scales (*ibid.*: 761). Of greater interest, the authors argue, is the kind of relationship that has developed between established exploration or mining companies and *galamsey* operators. The authors point out that the maintenance of such a relationship, though uneasy, is necessary in ensuring continuous mining in the areas where these mining companies are located.

This commentary focuses on an aspect of the article that deals with the issue of *galamsey*. Drawing on historical events, I discuss some key characteristics of artisanal mining and miners and the issue of hybrid governance, involving traditional and modern authorities in mining in Ghana.

Galamsey in historical context

Galamsey, a corruption of 'gather them and sell', has long been a main method of extracting gold and other minerals in Ghana. From the precolonial period to the present, *galamsey* operators have been requesting land from chiefs or traditional rulers for their mining activities. In earlier times, the recognition given by chiefs to people who engaged in such mining, and by people to chiefs when giving them a share of whatever mineral was mined, was a way of minimizing conflict. The introduction of colonialism and later the attainment of independence gradually changed these relationships. From the first decade of the 1900s, some notable signs of control of *galamsey* operations emerged. First, the defeat of

Samuel Aniegye Ntewusu is a research fellow at the Institute of African Studies, University of Ghana, and is an affiliate research fellow at the Centre for Gender and African Studies, The Free University, Bloemfontein, South Africa. Email: santewusu@ug.edu.gh

Ashanti in the Yaa Asantewaa war of 1900–01 encouraged the British to venture into the interior of Ghana (at that time called the Gold Coast). Earlier reports of travellers and missionaries about gold, such as those by Bowdich (1873) and Ferguson (see Arhin 1974), among others, interested the British who sought to colonize the interior for purposes of exploiting its natural resources. Britain's interest in this gold was also a result of the closure of some South African mines during the Anglo-Boer war of 1899–1902 (Lentz and Erlmann 1989).

These two factors influenced and facilitated the gradual takeover of mining from the chief/*galamsey* partnerships. Prior to the Minerals Ordinance of 1936, which vested ownership of all minerals of the Gold Coast in the Crown, Joseph Chamberlain, in his confidential dispatch of 7 February 1902, had already conferred these mineral rights to the British Crown.[1] Correspondingly, from 1902 to 1936 there were several European mining firms that started prospecting for gold in Ghana,[2] normally on lands that ranged from 26,000 to 72,000 square feet in size and included various geological features such as rocks, bare ground or rivers.[3] The 1936 Ordinance, which followed about three decades after Chamberlain's dispatch and at a time when European companies were already entering the mining scene, further enabled the colonial administration, rather than chiefs, to grant concessions – and these were to mining companies rather than *galamsey* operators.

The gradually increasing domination of these companies led to tensions between chiefs, colonial administrators and mining companies. Chiefs, understandably, did not take kindly to these developments.[4] Fearing that gold mining by European companies would endanger the steady flow of royalties to their coffers (Ntewusu 2018), they set more store by their existing ties to *galamsey* operators than by new ties to companies supported by the colonial government.

After colonialism, the post-independence Ghanaian state failed to take into consideration these pre-existing, and long-lasting, relationships. On the contrary, the new constitutional arrangements gave the government more control than before over resources and mining rights and sometimes concessions were given by the government without the consent of the chiefs. These developments partly account for the readiness with which chiefs gave land to *galamsey* miners: it was part of a political/mining challenge through which they intended to win back their earlier role as owners of the land. As Luning and Pijpers point out in their article, the contemporary organization of gold mining confirms the lasting importance of local authorities as they team up with gold miners to govern sites (2017: 771).

[1]Public Records and Archives Administration (PRAAD), Tamale, NRG 8/23/24, 'Minerals', 1942.

[2]PRAAD, Tamale, NRG 8/23/10, 'Prospecting rights (Gold Coast Selection Trust)', 1938–41.

[3]PRAAD, Tamale, NRG 8/8/23/9, 'The Minerals Ordinance', 1938; PRAAD, Tamale, NRG 8/23/16, 'Application for prospecting rights', 1938; PRAAD, Tamale, NRG 8/23/17, 'Exclusive prospecting licence', 1938–41.

[4]PRAAD, Tamale, NRG 8/23/21, 'Exclusive prospecting licence, Dokrupe', 1939.

War without results: political talk and the reality of mining on the ground

In June 2017, several print and electronic media carried a story about the 'declaration of war' on *galamsey* operators by the government of the Republic of Ghana. In the words of President Nana Akuffo-Addo: 'I understand the galamseyers say if I want to go by the dictates of the law, they will vote against me and my party the NPP at the next elections' (Takyi-Boadu 2017). The president is aware that miners have a deep suspicion of politicians' propensity to see them as nothing more than 'votes'. This fear of electoral loss is evident in the case of Newmont: 'the company cannot easily ask the government to remove all these people, because they represent 10,000 votes. Moreover, considering the artisanal miners' determination and conviction that they have the right to mine, forbidding artisanal mining would create serious tensions in the mining areas' (Luning and Pijpers 2017: 771–2).

Attempts to crack down or 'wage war' on miners have a boom and bust element, a temporal dynamic. Shortly after a president is elected he will crack down on *galamsey*, but, in campaign time when he needs the miners' votes again, he will be more tolerant. In 2017 it was time to crack down, but moving towards elections in 2020 we can predict that the president will tone down his rhetoric about *galamsey*. The same modus operandi was deployed by the National Democratic Congress (NDC) government in 2013. After winning the elections in 2012 it got tough on Chinese miners in 2013–14, but it completely backed down in 2016, the year of the next election. In sum, the reality is that the alleged problem of *galamsey* will be very difficult for Ghana to solve. It is deeply woven into many aspects of Ghana's current reality: from the prevalence of Chinese trade partners, through the importance of small-scale mining in creating jobs in a country suffering from high youth unemployment, to the allegedly close relations between criminal networks and regional police (Burrows and Bird 2017). The stated concern of the president and other Ghanaian actors, including the media, which formed a 'coalition against *galamsey*', was *galamsey*'s destructiveness to the environment. The mining operations are said to destroy or pollute water bodies, and the chemicals, such as mercury and cyanide, that are used to extract gold are harmful or deadly. *Galamsey* has also been linked to various forms of crime, including armed robbery, money laundering and prostitution. Since the declaration of the 'war on *galamsey*', the joint military and police operations have seized mining equipment from *galamsey* operators, and there have been several arrests and prosecutions. However, a critical evaluation reveals that the environmental rhetoric was mainly used to gain public sympathy for a 'war' whose rationale is more complex and multifaceted. In the first place, the declaration of 'war' diverted attention from the fact that, over the years, officials in the Ministry of Land and Natural Resources, the Ministry of Environment and the Minerals Commission had been unable to regulate mining in Ghana. The subsequent use of the armed forces and the police against *galamsey* similarly reflected the weakness of institutionalized mining regulation in Ghana. Furthermore, a key fear of the government was that labour had been diverted from farming into artisanal mining, a factor that, it was reasoned, could have negative consequences for food security. Finally, an increasing number of farmers were selling their cocoa plantations to *galamsey* miners. Given that cocoa is one of the country's major export commodities, this meant that, without a crackdown on gold mining, Ghana would be losing out as a major cocoa supplier in international trade.

In sum, artisanal mining, as Luning and Pijpers point out, is directly linked to politics in Ghana. The fear of losing votes in elections normally causes governments to ease up on *galamsey* operations. This has indeed been the case for several years in Ghana. In the run-up to elections in 2020, the president will need the miners' votes again and this will certainly temper his anti-*galamsey* discourse. This dynamic of boom and bust makes it difficult to have a consistent strategy towards small-scale mining. But it is essential for the government to return to the communities and engage with chiefs and *galamsey* operators. The examples given by the authors, regarding Newmont and Keegan and their relationships with the *galamsey*, show how various forms of coexistence are negotiated. As their article reveals, artisanal miners are not completely powerless, and, in the miners' eyes, the primary authority is not the president or the state-backed company, but the chief.

Acknowledgements

I would like to acknowledge the financial contribution from the research project 'Society and Change in Northern Ghana: *Dagomba*, *Gonja*, and the Regional Perspective on Ghanaian History'.

References

Arhin, K. (1974) *The Papers of George Ekem Ferguson: a Fanti official of the government of the Gold Coast, 1890–1897*. Leiden: African Studies Centre.

Bowditch, T. E. (1873) *Mission from Cape Coast Castle to Ashantee, with a Descriptive Account of that Kingdom*. London: Griffith & Farran.

Burrows, E. and L. Bird (2017) 'Gold, guns and China: Ghana's fight to end galamsey', *African Arguments*, 30 May <http://africanarguments.org/2017/05/30/gold-guns-and-china-ghanas-fight-to-end-galamsey/>, accessed 24 April 2018.

Lentz, C. and V. Erlmann (1989) 'A working class in formation? Economic crises and strategies of survival among Dagara mine workers in Ghana', *Cahiers d'Études Africaines* 29 (113): 69–111.

Luning, S. and R. J. Pijpers (2017) 'Governing access to gold in Ghana: in-depth geopolitics on mining concessions', *Africa* 87 (4): 758–79.

Ntewusu, S. A. (2018) 'A social history of gold mining in Bole, northern Ghana: from pre-colonial to recent times', *Transactions of the Historical Society of Ghana* 17 (2015–17): 1–26.

Takyi-Boadu, C. (2017) 'War on galamsey deepens', *Modern Ghana*, 18 June <https://www.modernghana.com/news/782965/war-on-galamsey-deepens.html>, accessed 18 September 2018.

Africa 88 (4) 2018: 871–75 doi:10.1017/S0001972018000529

Expanding 'in-depth geopolitics': the case of Mohamed & Co. and the technologies of collaboration

Pablo Cabada Rodríguez and *Sylvia van Oevelen*

At the start of 2017, as Ntewusu (this issue) shows, the Ghanaian government launched an 'open war' on illegal small-scale gold miners – *galamsey* – arguing that Ghana's water bodies and forests need protection. According to Ghana's Water Resources Commission, around 60 per cent of the country's water bodies have been polluted by *galamsey* activities.[1] The timing of this 'war' is related to the recent trend in which many small-scale mining operations are scaling up their technology as a result of new collaborations, mainly between Ghanaian and Chinese investors and miners.

Our contribution is based on field research conducted in Tarkwa from January to March 2017, a period in which the trend of up-scaling small-scale mining was evident, but when *galamsey* activities were not yet affected by the government's proclamation of a 'war on *galamsey*'. In relation to this specific moment and political context, we ask how the notion of 'in-depth geopolitics' can help analyse the tensions and collaborations that had recently developed in small-scale mining and gave a push towards this 'war' in Ghana. We build on, but also extend, this notion by foregrounding a particular articulation based on our case study. We look at what we call 'technologies of collaboration': articulations of different technical and legal capabilities, which together generate a network of assemblages between different gold-mining actors.

The mining town of Tarkwa, located in the south-west of Ghana, originated as a mining camp in the late nineteenth century and has continued to be one of the most important mining areas in Ghana (Dumett 1998). Today, the city hosts various mining operations (see Figure 1), ranging from large-scale concerns such as the multinational mining corporation Gold Fields, to small-scale and *galamsey* enterprises that encompass a wide variety of actors and organizational forms.

In a manner comparable to that described by Luning and Pijpers (2017) for other sites in Ghana, in Tarkwa small-scale and large-scale mining occur together. However, underground cohabitations take place in a distinctive landscape, marked by a long history of industrial mining. Whereas industrial mining now takes place in open-pit mines, small-scale mining operations often reuse old, abandoned industrial shafts.

Pablo Cabada Rodríguez is currently working as a freelance manager in the Netherlands. Email: pcabadar@gmail.com

Sylvia van Oevelen is a public affairs adviser at the Association of Drinking Water Companies in the Netherlands (Vewin), focusing on the protection of drinking water sources, and is participating in the two-year trainee programme 'National Water Traineeship'. Email: syloevel@hotmail.com

[1] '60% of Ghana's water bodies polluted – Water Resources Commission', *Pulse Ghana*, 13 May 2017 <https://www.pulse.com.gh/news/galamsey-60-of-ghana-s-water-bodies-polluted-water-resources-commission-id6672287.html>, accessed 13 March 2018.

FIGURE 1 A simplified depiction of Tarkwa with its different mining sites.

The state separates ownership of the land and the subsoil, and, legally, the minerals in the subsoil are state property – what Emel *et al.* call 'subterranean sovereignty' (2011). Although *galamsey* mostly work without state-issued mining licences, they can gain access to sites on the basis of traditional arrangements with the owners of the land. In Tarkwa, engagements in wider socio-political fields can therefore interrupt state–capital alliances (cf. Emel *et al.* 2011). In addition, after clearing an abandoned shaft of debris, *galamsey* miners gain the 'informal' right to use it and hence receive informal ownership status. Gaining access to gold results from forms of hybrid governance (Luning and Pijpers 2017) and differences in mining technologies (cf. Ribot and Peluso 2003).

In small-scale mining, legality and illegality are thus not definite and absolute categories, but produced and contested. Our research in Tarkwa reveals that the definition of illegality is a fluid concept, constructed in practice on the basis of moralities and abilities. Moreover, geological features play a prominent role in this fluid conceptualization. We have seen that small-scale mining can take place in old shafts, where so-called reef mining takes place. In this case, the gold is located in hard rock, and the ore needs to be processed to 'liberate' the gold from the stones. On the other hand, gold that has already been freed by processes of erosion can be found near water sources. Mining for 'free' gold is called alluvial mining. Both government authorities and small-scale miners agree that alluvial mining is the most destructive to the environment. As a consequence, alluvial mining is categorically considered illegal by all Ghanaians we talked to. We

https://doi.org/10.1017/S0001972018000529 Published online by Cambridge University Press

may conclude that illegal mining in the formal sense – defined by the absence of a state-issued licence – differs from the notion of illegality as it is constructed in daily work practices and social arrangements on the ground.

The socio-political structures and construction of legality we found in Tarkwa provide a starting point to explore 'in-depth geopolitics': that is, the entwining of the politics of extraction and geological features underground (Luning and Pijpers 2017). We situate this within the current trend of up-scaling small-scale mining under the influence of the increasing Chinese presence (see Hilson *et al*. 2014; Hess and Aidoo 2016; Crawford *et al.* 2016; Crawford and Botchwey 2017).

One element is key for in-depth geopolitics in Tarkwa: according to the Ghana Mining Act of 2006, only Ghanaian nationals can obtain small-scale mining licences. Therefore, Chinese firms operating in Tarkwa depend on alliances with licensed Ghanaian companies. However, the benefits of these alliances work both ways, since Ghanaian miners often lack technological and financial resources for their operations, and this is what their Chinese partners provide, making it possible to scale up small-scale alluvial and reef mining. In the former, excavators and dredges are used to mine 'free' gold on an unprecedented scale; in the latter, water pumps and the rebuilding of transport infrastructure in shafts have enabled drastic changes.[2] Mining can now take place deeper, even below the water table. In Tarkwa, the networks of assemblages (Weszkalnys and Richardson 2014) for gold extraction activities constitute a socio-technical context that may vary and that tends to be site-specific. To illustrate this, we focus on one particular site where reef mining is embedded in recently developed socio-technical alliances: Mohamed & Co.

Two distinct forms of collaboration operate on this site; both centre on Mohamed & Co., the owners of the small-scale mining licence. They partnered with Chinese investors/miners on the one hand, and with various groups of *galamsey* on the other. Both licensed and *galamsey* operations mine the same ore body, but differing technological capabilities and geological access lead to contrasting working practices and targeting of the ore from different access points (Figure 2). The licensed operation uses the old shaft infrastructure, which has been rebuilt and improved. Electricity facilitates the use of transport carts in the driveways and extensive systems for pumping out water. Nearby, *galamsey* are allowed to dig their own pits to access the ore underground, but only until they reach the third level of the underground division, which dates back to the industrial period (see Figure 2). Below the third level, only Mohamed & Co. and its Chinese partners may work, since only this partnership provides the water pumps that are needed to keep the water table down to a certain level. Thus, similar to Luning and Pijpers' Newmont case, water functions as a barrier for mining in Tarkwa, preventing the *galamsey* from accessing the richer parts of the ore body.

Technologies to bypass this 'natural' barrier give the Chinese and their licensed Ghanaian allies exclusive access to the deeper part of the ore body. This is a perfect example of how access to – and exclusion from – underground wealth are connected to technologies of collaboration, based on the legal and technical

[2]Practices of processing ore have also changed substantially, but cannot be dealt with here.

https://doi.org/10.1017/S0001972018000529 Published online by Cambridge University Press

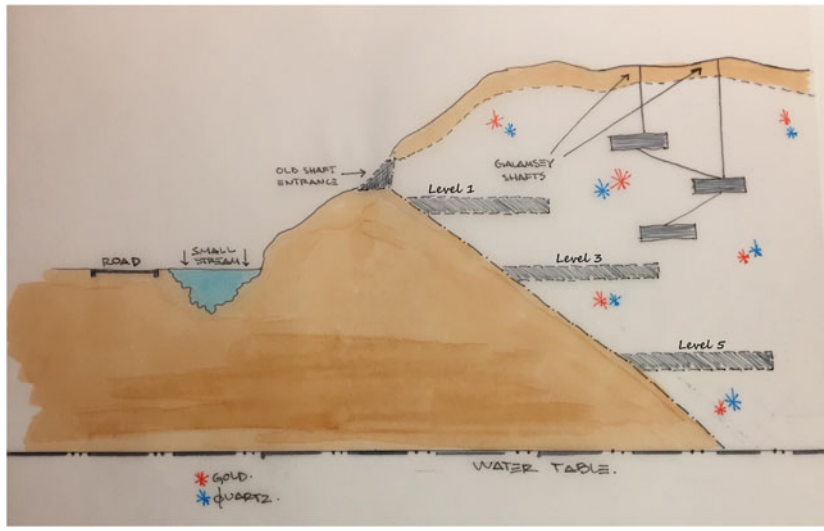

FIGURE 2 Cross-section depicting the ground and underground division of Mohamed & Co.

capabilities of different actors. The case of Mohamed & Co. allows us to understand the influence of in-depth geologies, defined as assemblages of social networks and subterranean features (Luning and Pijpers 2017).

The relations between Mohamed & Co. and their two sets of partners thus clearly illustrate the need to consider the infrastructures of extraction and mechanisms of access. In the case of Tarkwa, this is linked directly to the level of technology available to access and extract the ore. Luning and Pijpers state that the governance of access to gold in mining concessions is 'informed by an intricate combination of social and natural factors: a socio-political field of relations anchored onto an underground of geological structures' (2017: 6). The case of Tarkwa exemplifies this: the presence of the Chinese and the new technologies introduced as a result affect underground working arrangements. And they do so in a context where legal frameworks identify Ghanaian nationals as gatekeepers to the underground.

In order to reveal these shifting alliances, we have thus proposed to extend the analysis of in-depth geopolitics. We stress the importance of assets owned by alliance partners, especially their legal instruments and technological capabilities. The concept 'technologies of collaboration' captures this focus. The example here also shows that we should not look at cohabitation between large-scale and small-scale mining as involving two static categories. The trend of scaling up capabilities due to the arrival of the Chinese and the forging of new alliances increases differentiation among small-scale mining actors. Differences between large and small scale start to be reconfigured, and technologies of collaboration hinge on the fluidity between scales of operation. The way in which the new technologies of collaboration are causing and/or are affected by the 'war against the *galamsey*' continues to be a major issue for research and public debate in Ghana.

https://doi.org/10.1017/S0001972018000529 Published online by Cambridge University Press

Acknowledgements

This paper is based on MA fieldwork carried out under the umbrella of the Ghana Research and Training Programme (FR&T) at the Institute of Cultural Anthropology and Development Sociology, Leiden University, and in collaboration with the engineering firm Witteveen + Bos. A special thanks to Eduardo Saba for helping us give a graphic representation to our descriptions.

References

Crawford, G. and G. Botchwey (2017) 'Conflict, collusion and corruption in small-scale goldmining: Chinese miners and the state in Ghana', *Commonwealth and Comparative Politics* 5 (4): 1–28.

Crawford, G., C. Agyeyomah, G. Botchwey and A. Mba (2016) 'The impact of Chinese in small-scale gold mining in Ghana'. Policy brief 33110. London: International Growth Centre <https://www.theigc.org/wp-content/uploads/2016/08/Crawford-et-al-2016-Policy-brief.pdf>, accessed 1 March 2018.

Dumett, R. E. (1998) *El Dorado in West Africa: the gold-mining frontier, African labor, and colonial capitalism in the Gold Coast, 1875–1900*. Oxford and Athens OH: James Currey and Ohio University Press.

Emel, J., M. T. Huber and M. H. Makene (2011) 'Extracting sovereignty: capital, territory, and gold mining in Tanzania', *Political Geography* 30 (2): 70–9.

Hess, S. and R. Aidoo (2016) 'Charting the impact of subnational actors in China's foreign relations: the 2013 *galamsey* crisis in Ghana', *Asian Survey* 56 (2): 301–24.

Hilson, G. M., A. E. Hilson and E. Adu-Darko (2014) 'Chinese participation in Ghana's informal gold mining economy: drivers, implications and clarifications', *Journal of Rural Studies* 34: 292–303.

Luning, S. and R. J. Pijpers (2017) 'Governing access to gold in Ghana: in-depth geopolitics on mining concessions', *Africa* 87 (4): 758–79.

Ribot, J. C. and N. L. Peluso (2003) 'A theory of access', *Rural Sociology* 68 (2): 153–81.

Weszkalnys, G. and T. Richardson (2014) 'Resource materialities: new anthropological perspectives on natural resource environments. Introduction', *Anthropological Quarterly* 87 (1): 5–30.

Africa 88 (4) 2018: 867–70 doi:10.1017/S0001972018000517

Resource politics and the impact of Chinese involvement in small-scale mining in Ghana

Gabriel Botchwey and *Gordon Crawford*

Luning and Pijpers (2017) give a valuable analysis of the interplay between politics and geology in forms of cohabitation between international mining companies and small-scale mining operators on large-scale concessions, which reveals much about the ways in which existing power relations are challenged. 'In-depth geopolitics', inclusive of the three-dimensional perspective, is an innovative concept that highlights important components of the dynamics at work from the state to the community level, and shows how these have succeeded in some situations to push back corporate and state dominance in favour of miners from the locality. The case studies of Keegan Resources and Newmont Ghana are very instructive in pointing out the complexities and contextual nature of cohabitation arrangements between large-scale and small-scale mining operators. Factors that influence or even determine the nature of these arrangements include natural, social, political and security concerns. The article draws attention to the role of chiefs, who indeed have almost always played a part in such negotiations, even though this has not been commonly and openly acknowledged. Artisanal miners, both legal and illegal, have also learned to exploit politicians' need for votes in upcoming elections to their advantage, as the article notes. This weakens the resolve of the state to deal with the negative impact of mining, such as environmental destruction, loss of livelihood, and corruption (Crawford and Botchwey 2017).

The cohabitation situation revealed in the work of Luning and Pijpers (2017) is, however, more complicated and perhaps more tenuous than they acknowledge. With reference to the negotiation by Keegan Resources with miners from the locality, one has to bear in mind that cohabitation is being sought at the expense of 'outsiders' from elsewhere within Ghana. The informal agreement, in exchange for Keegan's exclusive access to the gold outcrop that the company is targeting, precludes such 'outsiders' from operating on the Bonte site. However, given that *galamsey* operators typically move from site to site and seldom settle in any particular location, often travelling hundreds of miles to work in gangs, it is difficult to vouch for claims that *galamsey* operators are local or 'autochthonous'. In addition, the prohibition of the use of mechanized equipment on the Bonte site may not stand the test of time. Since 2009, with the involvement of Chinese miners in gold mining, which peaked in 2013, small-scale mining in Ghana has become highly mechanized, involving the use

Gabriel Botchwey is a lecturer and former head of the Department of Political Science, University of Education, Winneba, Ghana. He is also a member of the Council for the Development of Social Science Research in Africa (CODESRIA). Email: GKABotchwey@uew.edu.gh
Gordon Crawford is Research Professor in Global Development in the Centre for Trust, Peace and Social Relations at Coventry University. He is also Honorary Professor at University of Freiburg, Germany, and Academic Director (Germany) of the Maria Sybilla Merian Institute for Advanced Studies in Africa (MIASA) at the University of Ghana. Email: gordon.crawford@coventry.ac.uk

of excavators, wash plants and other equipment. These, in comparison to manual 'traditional' methods, have increased small-scale gold production nearly sevenfold. This is common knowledge in the small-scale mining community. Artisanal miners agreeing to use the traditional pickaxe, shovel and bowl at the Bonte site may thus be doing so simply as a strategy to gain access to the site. The deployment of mechanized equipment, in our view, is almost certain to happen; it is only a matter of time.

Regarding Newmont and the ways in which it attempts to gain the consent of the local population for its operations, the article notes the important distinction between formal corporate social responsibility (CSR) activities and the 'strategic tolerance' approach of leaving an area to artisanal miners rather than trying to force them off the company's concession, which would risk the collective opposition of miners, landowners and chiefs. This pragmatic approach allows local miners to mine to a depth beyond which it becomes technologically impossible for them to advance since they cannot get past the water table, leaving Newmont to mine at a deeper level. However, one key issue that the article omits is the size of the concessions that international mining companies such as Newmont obtain from the state, only a proportion of which they actually mine, and the dispossession of land that local communities suffer as a direct consequence. While Newmont's pragmatism provides a useful avenue for cohabitation with some local miners, local people's alienation from the land means that farming and other land-use activities are no longer possible, with consequent adverse effects on local livelihoods. Indeed, many local people have had to switch from farming to illicit mining as a livelihood option. Large-scale mining companies typically disregard areas within their concession that they do not consider economically viable to mine, and, in many cases, artisanal miners gain access to these through incessant agitations and running battles with those companies. The latter tolerate the presence of local miners on 'their' concessions only where their operations and reputation are not threatened. Thus, cohabitation arrangements tend to be negotiated settlements between companies and local miners in contexts of conflict over access to gold resources, and are not born out of a desire to support local employment or to promote economic productivity in the localities. Additionally, such 'cohabitation' does not balance out the dispossession of land suffered by rural dwellers.

The role of the state in prioritizing large-scale over small-scale mining also comes into focus here. Much of the legislation on mining privileges large-scale mining, especially foreign companies, over local artisanal mining. The small-scale mining sector has faced decades of financial and technological neglect by the state. This was a key reason why small-scale Ghanaian miners generally welcomed the recent and unprecedented influx of Chinese miners (Hilson *et al.* 2014), reportedly numbering tens of thousands from 2008 to 2013,[1] who came with capital and know-how about mechanized mining (Crawford and Botchwey 2017). They used their capital to obtain land and equipment and acquired false documents through bribes to local officials, then undertook mechanized mining operations in Ghana, often in collaboration with local artisanal miners. Mechanized mining has led to an intensification of gold production from the

[1] *South China Mining Post*, 7 July 2013.

https://doi.org/10.1017/S0001972018000517 Published online by Cambridge University Press

small-scale sector, which now accounts for a third of all gold production in Ghana, and increased incomes to between US$4,000 and US$6,500 per week for Ghanaian mining kingpins, with nearly five times as much going to their Chinese counterparts who financed and undertook the mining operations. No taxes were paid on such incomes. Another significant and negative outcome was the wholesale and blatant environmental destruction of water bodies,[2] forests and farmlands.[3] While the involvement of all foreign miners is illegal, with small-scale mining restricted to Ghanaian citizens by law, a 'culture of impunity' developed due to the corrupt behaviour of officials,[4] chiefs, politicians and security personnel,[5] all of whom turned a blind eye in return for a share in the loot. In addition, some of the Ghanaian mining kingpins have stated that they have financed politicians to help them get into office, with the implication that any attempt to stop illegal mining is already compromised, or politicians would face the consequences at the ballot box in subsequent elections (Abdulai 2017). Currently, the government does appear to be making a serious attempt to rein in illegal mining and address associated environmental destruction: an initial six-month moratorium on all small-scale mining from April 2017 has subsequently been extended on two occasions, with the ban still in place in late July 2018. However, the involvement of many politicians as beneficiaries of illegal mining would suggest that such efforts could again be compromised. This is a question of old-fashioned politics rather than geopolitics.

The Chinese miners in Ghana largely operated outside the concessions of large-scale companies, and hence there were hardly any reported instances of confrontations between the two. Contestations have occurred, instead, between local artisanal miners and Chinese small-scale miners, mainly over access to communal mining sites that have been illegally turned over to Chinese miners by some locals, with the connivance of chiefs and other public officials. Issues of cohabitation between large-scale corporations and local artisanal miners highlighted in Luning and Pijpers' original article did not feature in our study of Chinese involvement (Crawford and Botchwey 2017). Even in settings of minimal Chinese involvement, however, the impact of the mechanization and intensification of mining that has generally resulted from such involvement needs to be acknowledged. Although the majority of Chinese miners left the country as a result of the military task force in mid-2013, the mechanization that they brought has irrevocably changed the nature of small-scale mining in Ghana. In the cohabitation arrangements that Luning and Pijpers analyse, they highlight a shift in power relations that privileges local miners, but such shifts may be short-lived. As small-scale operations become increasingly mechanized, any cohabitation arrangements with international mining companies such as

[2]See Water Research Institute (2013).

[3]'Galamsey: government to spend GHC60,000 to reclaim one hectare of degraded land', GhanaWeb, 13 November 2017 <https://www.ghanaweb.com/GhanaHomePage/NewsArchive/Galamsey-Government-to-spend-GHC60-000-to-reclaim-one-hectare-of-degraded-land-599883>, accessed 31 July 2018.

[4]'Ghanaians acquiring visas for Chinese to engage in galamsey: minister reveals', GhanaWeb, 12 October 2017 <https://mynewsgh.com/ghanaians-acquiring-visas-for-chinese-to-engage-in-galamsey-minister-reveals/>, accessed 31 July 2018.

[5]See Crawford and Botchwey (2016).

https://doi.org/10.1017/S0001972018000517 Published online by Cambridge University Press

Newmont, or even smaller ones such as Keegan Resources, become increasingly unlikely, given that intensified mining would not be tolerated by the companies on what they regard as their land.

References

Abdulai, A.-G. (2017) 'The galamsey menace in Ghana: a political problem requiring political solutions?' Policy Brief 5. Accra: University of Ghana Business School.

Crawford, G. and G. Botchwey (2016) 'Foreign involvement in small-scale gold mining in Ghana and its impact on "resource fairness"' in M. Pichler, C. Staritz, K. Küblböck, C. Plank, W. Raza and F. Ruiz Peyré (eds), *Fairness and Justice in Resource Politics*. Abingdon: Routledge.

Crawford, G. and G. Botchwey (2017) 'Conflict, collusion and corruption in small-scale gold mining: Chinese miners and the state in Ghana', *Commonwealth and Comparative Politics* 55 (4): 444–70.

Hilson, G., A. Hilson and E. Adu-Darko (2014) 'Chinese participation in Ghana's informal gold mining economy: drivers, implications and clarifications', *Journal of Rural Studies* 34: 292–303.

Luning, S. and R. J. Pijpers (2017) 'Governing access to gold in Ghana: in-depth geopolitics on mining concessions', *Africa* 87 (4): 758–79.

Water Research Institute (2013) *Impact of Small-scale Mining on the Water Resources of the Pra River Basin*. Accra: Council for Scientific and Industrial Research (CSIR).

Africa 88 (4) 2018: 876–80 doi:10.1017/S0001972018000530

Shifting alliances in accessing the underground

Sabine Luning and *Robert Jan Pijpers*

Since 2011, when research for our article 'Governing access to gold in Ghana: in-depth geopolitics on mining concessions' (Luning and Pijpers 2017) was conducted, the dynamics of gold mining in Ghana have changed significantly. In 2017, a new president was elected who swiftly initiated a 'war on *galamsey*', supported by media and civil society groups, and the past years have witnessed a steep increase in the Chinese presence in and around the mining sector (in mining itself, but also in providing equipment). Almost inevitably, research output based on fieldwork is not in sync with social developments at the time of publication. Yet, the recent developments strongly resonate with two preoccupations of our article: (1) the relationship between politics and mining in terms of hybrid governance; and (2) the effects of differentiation in technological capacities on cohabitation arrangements. An important reason for organizing a debate section around our article is the turbulent developments that have occurred around mining in Ghana since our fieldwork. We asked several experts to discuss our article in the light of the recent developments. What do these current trends mean for our analysis? And is it still helpful in explaining the new developments?

Longer temporal perspectives are important. The contribution by Samuel Ntewusu supports some of our viewpoints from a historical perspective. His analysis illustrates longer-term dimensions of the connection between politics and mining, including miners' dependencies on chiefs in order to gain access to mining sites. He describes transformations in these connections, in particular those resulting from the interest that the colonial administration developed in mining. Prerogatives of chiefs were seriously menaced by the colonial state's attempts to gain sovereignty in attributing mining titles, and by the almost exclusive allocation of these titles to foreign industrial mining companies. With this historical perspective in mind, the ways in which chiefs currently try to dominate small-scale mining, as seen in our article, can be seen as attempts to regain terrain they lost in earlier times. Their influence in organizing *galamsey* who do not have formal mining titles should be understood in relation to this longer history, in which their political authority was marginalized by the colonial state. Ntewusu's historical analysis shows the importance of understanding mining practices – their scale and (lack of) formalization – as informed by dynamics within the field of hybrid governance (cf. Geenen 2016; Hardin 2011). Relations between the state and customary authorities are key to understanding the room for manoeuvre, or lack thereof, of small-scale miners in the past and in the

Sabine Luning is a senior lecturer at the Institute of Cultural Anthropology and Development Sociology, Leiden University. Her research focuses on economic anthropology, in particular relations between large-scale and small-scale goldmining, and state–company–community relations in West Africa. Email: sluning@fsw.leidenuniv.nl

Robert Jan Pijpers is a postdoctoral researcher at the Institute of Social and Cultural Anthropology, University of Hamburg. His work focuses on land use and governance, social and economic change, and the micro-politics of resource extraction in West Africa. Email: robert.pijpers@uni-hamburg.de

present. Currently, the dynamics in hybrid governance are influenced by electoral processes. Our quote about miners representing 10,000 votes is given a temporal boom-and-bust dimension in Ntewusu's commentary: he shows how, today and in the past, the government's approach to *galamsey* has been characterized by an intensification of policing at the start of a new presidential period and its waning closer to elections.

Ntewusu's commentary thus allows us to place our analysis of in-depth geopolitics in a broader temporal perspective, particularly with regard to the dynamics between politics and mining. How can we extend this attention to temporal processes to explain some of the other developments that have emerged since 2011? Crawford and Botchwey argue that the cohabitation arrangements described in our article are lessening in importance, and they do not expect them to last in the course of the current developments. Their assessment is based on two trends: (1) the world of mining is so strongly marked by the mobility of miners that autochthony claims are becoming untenable; and (2) the scaling up of technologies in artisanal and small-scale mining as a result of Chinese involvement will undermine the arrangements between artisanal and small-scale mining and large-scale mining identified in our article. Autochthony claims may, however, be pertinent in the context of mining, precisely because mobility is a key feature. Miners do indeed often come from elsewhere but they arrive in social settings with particular authority structures and forms of land use in place. Those who are positioned as potential hosts – not so much the miners themselves – will be keen to play the autochthony card. First of all, chiefs and local landowners will position themselves as authorities belonging to the places miners try to access. Moreover, local inhabitants may seek to protect their livelihoods and residential arrangements using claims in terms of temporal precedence, and certain groups of miners may try to capitalize on claims that their arrival preceded that of other groups or forms of mining. These processes of intensifying claims in autochthony, or broader identity politics, in times of increased mobility have been convincingly described by various authors (Geschiere and Nyamnjoh 2000; Geschiere 2009; Ceuppens and Geschiere 2005; Eriksen 2005; Eriksen and Schober 2016; Lanzano 2018; Pijpers 2018; Luning 2018). They show that processes of rapid change, including those taking place within neoliberal developments, may ignite and further strengthen claims to originary belonging.

These dynamics, too, need to be studied over longer periods of time (see, for example, D'Angelo and Pijpers 2018). At the start of a mining boom, for instance, autochthony claims may appear weak, but they may well intensify at a later stage. Similarly, claims based on autochthony can seem quite plausible and legitimate at one moment, only to be superseded in the next. This is precisely what Crawford and Botchwey anticipate for the Keegan and Newmont cases in our article; under the influence of Chinese scaling up of mining operations, they predict changes in the cohabitation arrangements we describe between artisanal and small-scale mining and large-scale mining actors. The technologies that Chinese investors and experts can supply to small-scale miners may come to undermine – literally – arrangements based on distinctive access to ore bodies. Large-scale mining actors will have to block miners who, with Chinese backing, would be able to access considerably more ore than before. This is a plausible future scenario that, in fact, endorses our analysis. Potentially, up-scaled technologies will encourage artisanal miners to compete more fiercely with large-scale miners.

How this plays out in forms of cohabitation will continue to depend on complex processes of negotiation and collaboration. The legal framework stipulates that newly arrived Chinese miners may put their technological capabilities to work only in alliance with Ghanaian nationals. Moreover, up-scaled and more efficient technologies are useless without access to the underground. This access can be secured only through specific alliances with others – with those able to make claims that are persuasively framed in terms of belonging and autochthony.

Crawford and Botchwey also describe other kinds of collaboration. The dominance of the Chinese, they show, is possible only if the military provides security and if state officials are agreeable to accepting bribes. Press reports emphasize that resistance against Chinese dominance in small-scale mining was triggered by the collusion of Ghanaian state authorities of different sorts.[1] Crawford and Botchwey see the corruption and political collusion that facilitate Chinese dominance as 'old-fashioned politics rather than geopolitics'. For us, the term 'geopolitics' encompasses such processes. The term allows us to foreground the ways in which machine-based access to ore, and political or autochthonous gatekeepers allowing or blocking such access, are effective in conjunction with each other.

This latter point is brought home convincingly in the contribution by Cabada and van Oevelen. Their ethnographic work is situated in Tarkwa, a town with a long history of industrial mining and a mining landscape that is quite different from the two cases described in our article. In Tarkwa, small-scale mining cohabits with its larger-scale industrial counterpart in a context in which the latter has been dominant in the past and the present. The situation they describe is a case of what Crawford and Botchwey identify as the recent scaling up of small-scale mining under Chinese influence. This often takes place in old mining shafts, abandoned by large-scale mining actors as they reorient themselves towards open-pit mining as a consequence of new industrial technologies (in particular, heap leaching with cyanide). In Tarkwa, the insertion of Chinese presence into cohabitation dynamics between different types of miners will indeed change the balance between artisanal and small-scale mining and large-scale mining arrangements. The specific characteristics of these shifts, however, cannot be understood through a focus on old-fashioned politics alone. Instead, geological features that determine how miners working on different scales may encounter one another underground, or may become competitors over the same ore, need to be taken into account. As noted above, the new up-scaled technologies influencing these underground dynamics depend on new alliances between foreigners and nationals (autochthones). Current developments in Tarkwa underscore the need to specify how geological features influence cohabitation arrangements between artisanal and small-scale mining and large-scale mining. In the current scenario – in which the

[1]The debate gained momentum when a soldier was murdered by local community members in May 2017. While some reports claim that he was killed because people mistakenly took him to be an armed robber, a variety of other reports relate the murder to *galamsey* mining, claiming that, for example, the officer was deployed to fight illegal mining, or that he was murdered because he was accused of collaborating with the Chinese (see <https://www.ghanaweb.com/GhanaHomePage/NewsArchive/Biography-Who-was-Captain-Maxwell-Mahama-542742>; <http://citifmonline.com/2017/05/30/diaso-lynching-capt-mahama-was-deployed-to-fight-galamsey-uncle/>; <http://africatimes.com/2017/05/30/reports-ghanaian-soldier-lynching-tied-to-illegal-galamsey-gold-mining/>, all accessed 16 July 2018).

https://doi.org/10.1017/S0001972018000530 Published online by Cambridge University Press

war on *galamsey* combines with the scaling up of Chinese operations – no distinction is made between alluvial and hard rock artisanal and small-scale mining operations; in the public debate, it is *galamsey* who are categorically blamed for destroying water bodies. Cabada and van Oevelen's work on Tarkwa shows the importance of distinguishing between artisanal and small-scale mining operations on the basis of their different geological settings. Correspondingly, in a recent visit to Tarkwa by Sabine Luning, *galamsey* explicitly asked her to voice their concern about the way in which all their mining was being equated with alluvial mining. They claimed that their reworking of old shafts is less damaging to the environment than alluvial techniques. They did, however, acknowledge that their way of accessing ore in old shafts, through new partnerships with the Chinese, might allow them to access ore under the water table and even under the open-pit mines of industrial miners. In this case, up-scaling might well lead to underground competition with large-scale mining and affect cohabitation arrangements between large-scale mining and artisanal and small-scale mining.

Finally, our analysis of in-depth geopolitics and cohabitation might be extended beyond arrangements between different forms of mining and the groups of miners involved, something with which our original article did not concern itself. This corresponds with Crawford and Botchwey's apt observation that collaborative partnerships do not involve miners alone. Within the large concessions of industrial mining companies, other land users will be affected dramatically, precisely because gold-mining companies hardly ever categorically forbid access to their entire concession. In order to give more attention to other actors, including farmers, and to explore their land-based encounters with large-scale mining or artisanal and small-scale mining actors, a subtle perspective on concessions is required. Such a perspective promotes the study of the discrepancies between maps and formal agreements, which may present an image of closed concessions, and their translation on the ground that includes numerous other activities and local 'interruptions' (Emel *et al*. 2011). In this approach, concessions are seen as heterogeneous spaces. They comprise securitized access points to underground mining spaces (cf. Bridge 2009) and areas exclusively dominated by the mining company, on the one hand, and other spaces where there is room for agriculture, CSR (corporate social responsibility) projects, trade or other forms of mining, on the other (see also Luning forthcoming; Pijpers forthcoming). The ways in which these forms of cohabitation come about are not necessarily signs of corporate goodwill or companies' local economic development initiatives, but the outcomes of (sometimes tense) negotiation processes between different actors and activities. These, as Ntewusu frames it, are all 'deeply woven into many aspects of Ghana's current reality'. In this situation, new developments, such as further 'wars on *galamsey*', increased (international) mobility and the introduction of up-scaled technologies, will require new negotiations and shifting alliances in order to access the underground. As this debate section has shown, the concept of in-depth geopolitics and a focus on cohabitation, alongside other insights and perspectives, are fruitful analytical approaches to study these negotiation processes and the reconfiguration of alliances that come about in order to access the mineral wealth underground.

References

Bridge, G. (2009) 'The hole world: spaces and scales of extraction', *New Geographies* 2: 43–8.

Ceuppens, B. and P. Geschiere (2005) 'Autochthony: local or global? New modes in the struggle over citizenship and belonging in Africa and Europe', *Annual Review of Anthropology* 34: 385–408.

D'Angelo, L. and R. J. Pijpers (2018) 'Mining temporalities: an overview', *The Extractive Industries and Society* 5 (2): 215–22.

Emel, J., M. T. Huber and M. H. Makene (2011) 'Extracting sovereignty: capital, territory, and gold mining in Tanzania', *Political Geography* 30: 70–9.

Eriksen, T. H. (2005) 'Economies of ethnicity' in J. G. Carrier (ed.), *A Handbook of Economic Anthropology*. Cheltenham and Northampton: Edward Elgar.

Eriksen, T. H. and E. Schober (2016) 'Introduction: the art of belonging to an overheated world' in T. H. Eriksen and E. Schober (eds), *Identity Destabilised: living in an overheated world*. London: Pluto Press.

Geenen, S. (2016) 'Hybrid governance in mining concessions in Ghana'. IOB Working Paper 2016.05. Antwerp: Institute of Development Policy and Management, University of Antwerp.

Geschiere, P. (2009) *The Perils of Belonging: autochthony, citizenship, and exclusion in Africa and Europe*. Chicago IL: Chicago University Press.

Geschiere, P. and F. Nyamnjoh (2000) 'Capitalism and autochthony: the seesaw of mobility and belonging', *Public Culture* 12 (2): 423–52.

Hardin, R. (2011) 'Concessionary politics: property, patronage, and political rivalry in Central African forest management', *Current Anthropology* 52 (3): S113–S125.

Lanzano, C. (2018) 'Gold digging and the politics of time: changing timescapes of artisanal mining in West Africa', *The Extractive Industries and Society* 5 (2): 253–9.

Luning, S. (2018) 'Mining temporalities: future perspectives', *The Extractive Industries and Society* 5 (2): 281–6.

Luning, S. (forthcoming) 'Characteristics of mining projects: shifting values in negotiations over access to land and water in Burkina Faso'. Submitted to *Journal of Rural Studies*.

Luning, S. and R. J. Pijpers (2017) 'Governing access to gold in Ghana: in-depth geopolitics on mining concessions', *Africa* 87 (4): 758–79.

Pijpers, R. J. (2018) 'Navigating uncertainty: large-scale mining and micro-politics in Sierra Leone'. PhD thesis, University of Oslo.

Pijpers, R. J. (forthcoming) 'Territories of contestation: negotiating mining concessions through encounters' in R. J. Pijpers and T. H. Eriksen (eds), *Mining Encounters: extractive industries in an overheated world*. London: Pluto Press.